

FH Healthcare Indicators™ and FH Medical Price Index™

A New View of Place of Service Trends and Medical Pricing

A FAIR Health White Paper, March 2018



Summary

To provide clarity in a rapidly changing healthcare environment, FAIR Health is introducing two new ways to derive insights from healthcare data: FH Healthcare Indicators™ and the FH Medical Price Index™. Drawing on the independent nonprofit's national database of billions of privately insured healthcare claims—the largest in the country—these two tools apply different approaches to illuminate different aspects of the national healthcare sector.

FH Healthcare Indicators analyzes trends involving place of service in recent years. Focusing on alternative places of service—retail clinics, urgent care centers, telehealth and ambulatory surgery centers (ASCs)—as well as emergency rooms (ERs), FH Healthcare Indicators evaluates changes in utilization, geographic and demographic factors, diagnoses, procedures and costs. These are some of the findings:

- From 2007 to 2016, urgent care centers showed an increase in claim lines of 1,725 percent—a growth rate more than seven times that of ER claim lines (229 percent) in the same period;
- In retail clinics and urgent care centers in 2016, acute respiratory infections, such as the common cold, were the number one diagnostic category—but in telehealth, mental health-related diagnoses were the number one diagnostic category;
- Across all places of service studied in 2016, more claim lines were submitted for women than men in every adult age group;
- In 2016, the median charge for a 30-minute new patient office visit (CPT®¹ code 99203) ranged from \$294 in an office to \$242 in an urgent care center to \$109 in a retail clinic;
- From 2007 to 2016, claim lines for ASCs increased more in rural (127 percent) than urban (95 percent) areas; and
- The age group 31 to 40 years accounted for the greatest percent of claim lines among patients using urgent care centers (18 percent), but among those using telehealth, the peak age groups were 41 to 50 and 51 to 60 years (each 19 percent).

The FH Medical Price Index tracks the growth in median procedure charges and median imputed allowed amounts² from May 2012 to May 2017 in six procedure categories, none of which include facility fees:

- Professional evaluation and management (E&M; excluding E&Ms performed in a hospital setting);
- Hospital E&M (excluding E&Ms performed in a professional setting, such as typical office visits);
- Medicine (excluding E&Ms);
- Surgery (procedures for which the physician would bill);
- Pathology and laboratory (including both technical and professional components, e.g., both equipment and physician services); and
- Radiology (including both technical and professional components).

May 2012 is the base month, to which values in later periods are compared; therefore, the FH Medical Price Index establishes a consistent point of reference that makes it easy to identify and compare shifts. In its first release, the FH Medical Price Index reveals, among others, the following findings:

- Of the six categories, hospital E&Ms had the greatest percent increase in charges and allowed amounts over the five years under study: 28 percent for the former, 26 percent for the latter;

¹ CPT © 2017 American Medical Association (AMA). All rights reserved.

² Because payors' contracted network rates are proprietary and cannot be shared, FAIR Health employs an imputation methodology to determine benchmarks for allowed amounts. First, FAIR Health calculates the ratios of actual allowed amounts to charges for groups of procedure codes on a national basis. The resulting ratios are applied to the actual charges for each specific procedure at the local (geozip) level to develop an "imputed" allowed amount for each claim line.

- Charges for professional E&Ms increased 22 percent, and allowed amounts increased 21 percent;
- Surgery charges and allowed amounts both had much lower growth rates than E&Ms in the same five-year period: three percent for the former, two percent for the latter;
- Radiology charges and allowed amounts rose higher than surgery values in this period, but not by much: seven percent for both;
- Medicine charges and allowed amounts both had a steep rise from November 2012 to May 2013, with the allowed amount rise (eight percent) exceeding the rise in charges (six percent); and
- From May 2013 to May 2014, pathology and laboratory charges stayed flat—but allowed amounts fell from six percent to three percent.

Background

The healthcare sector is complex and constantly changing. Healthcare stakeholders—including insurers and companies that self-insure, third-party administrators, hospitals and health systems, physicians and other individual providers, pharmaceutical and device manufacturers, federal and state government officials, legislators and policy makers—need information that will enable them to discern the fundamental indicators and patterns that are otherwise often obscure, and to make decisions on that basis. To help meet that need, FAIR Health is introducing two new sources of information: FH Healthcare Indicators and the FH Medical Price Index.

FAIR Health is an independent, national, nonprofit organization dedicated to transparency in healthcare costs and health insurance information. To develop the new resources, FAIR Health drew on its database of over 25 billion claim records contributed by payors and administrators who insure or process claims for private insurance plans covering more than 150 million individuals. Responding to the continuing growth of alternative places of service, FH Healthcare Indicators examines recent trends in such venues of care—including retail clinics, urgent care centers, telehealth and ASCs—as well as traditional ERs. The FH Medical Price Index presents a five-year overview of the weighted average growth in median charges and in median allowed amounts for professional E&M, hospital E&M, medicine, surgery, pathology and laboratory, and radiology categories.

It is hoped that the information in FH Healthcare Indicators and the FH Medical Price Index will assist many healthcare stakeholders, such as investors researching the healthcare sector; health systems budgeting and considering affiliations or market expansion; insurers designing plan benefits and setting premiums; and government agencies and policy makers trying to set courses that will benefit the public good. Medical schools may see a need to include more about telehealth in their curriculum; health IT professionals may recognize the importance of integrating and coordinating electronic health records (EHRs) across alternative places of service; healthcare journalists may discover statistical support for stories that will interest a wide audience.

However FH Healthcare Indicators and the FH Medical Price Index are put to use, FAIR Health believes that they will help bring greater clarity to the healthcare sector.

Methodology

FH Healthcare Indicators Methodology

To segregate FAIR Health claims data into venues of care, FAIR Health used standard Centers for Medicare & Medicaid Services (CMS) Place of Service codes to identify retail clinics (CMS Place of Service 17), urgent care centers (CMS Place of Service 20) and office (CMS Place of Service 11). Other methodologies were used to identify ERs (e.g., CMS Place of Service 23 in combination with a Bill Type of 131 and an emergency department visit CPT code [CPT 99281, CPT 99282, CPT 99283, CPT 99284, CPT 99285]); telehealth (telehealth CPT codes such as CPT 99441 [telephone evaluation and management service provided by a physician to an established patient] or telehealth modifiers such as GQ; and ASCs (Bill Type of 83*). The data were then aggregated by a variety of key fields, including state, urban/rural, diagnostic categories (e.g., urinary tract infection, ear infection, acute respiratory infections), year of service and patient demographics (age and gender) to identify trends and patterns in utilization and variation in cost. The data were evaluated with single and multiple variables to look for distinct trends and associations, which were then used to create graphical representations of the information.

In the graphical representations, the term “claim lines” refers to the individual procedures listed on insurance claims. A single claim for one patient may have multiple claim lines. “Percent of claim lines” is the percent of all claim lines associated with a given grouping (e.g., a set of diagnosis codes) in a given time period (e.g., 2016) in a particular chart. For example, in figure 36, which shows claim lines with ER usage by rural, urban and national settings from 2007 to 2016, each year’s data point for urban usage is the percent of all the claim lines in the urban usage grouping from 2007 to 2016. If one were to add up all the data points for urban usage from all the years in this period, they would total 100 percent.

FH Medical Price Index Methodology

FAIR Health used two of its benchmark modules, FH[®] Medical and FH Allowed Medical, to calculate, respectively, charge amounts and allowed amounts for the FH Medical Price Index. For each procedure code, the benchmark products report a median value, which is the dollar value used for all codes included in the indices. Eleven releases of the benchmark products were used to establish the indices: May and November of each year from 2012 to 2016, and May 2017. The total frequency for each procedure code within the selected categories (professional E&M, hospital E&M, medicine, surgery, pathology and laboratory, and radiology) was used to select codes for inclusion or exclusion. Each procedure code in a category that had a total combined frequency of 1 million or more occurrences in the eleven module releases was included in the indices. This allowed for natural inclusion of new codes and eventual exclusion of deleted codes in a gradual and controlled manner so as not to create erroneous fluctuations.

Once the list of codes to be included in the index was established, the median value for each release for each code (in dollars) was multiplied by the corresponding frequency for that code for the 11 releases, producing the release code median total. Then, all release code median totals in a category were summed to get a total dollar value for each release in that category (the release median total). That release median total was divided by the total frequency to generate a release average median. Each index was then created by using the following index formula: dividing each release average median for each month and year by the first release average median established (May 2012, the base):

$$\frac{\text{Release Average Median}_{\text{MONTH YEAR}}}{\text{Release Average Median}_{\text{BASE}}} = \text{Index Value}_{\text{MONTH YEAR}}$$

A sample calculation of how an FH Medical Price Index value is derived is given in the table below.

Table. Calculation of FH Medical Price Index for professional E&M charge amounts over a sample of the five-year period

Release	Release Median Total	Total Frequency	Release Median Total/Total Frequency = Release Average Median	Index Formula	FH Medical Price Index Value
May 2012	\$276,690,328,218.00	2,009,475,096	\$137.69 (base)	$\left(\frac{\$137.69}{\$137.69}\right)$	1.00
Nov 2012	\$285,391,784,999.28		\$142.02	$\left(\frac{\$142.02}{\$137.69}\right)$	1.03

FH Healthcare Indicators

There has been a sharp rise in recent years in the use of alternative places of service, including retail clinics, urgent care centers, telehealth and ASCs. FAIR Health studied those four venues of care and compared them to more traditional venues, such as offices and ERs.

Retail Clinic

Although retail clinics are subject to different legal restrictions depending on the state, they increasingly are used for a variety of procedures, including vaccinations, low-level office visits, sports physicals and quick diagnostic tests such as strep and flu tests. Claim lines for retail clinics grew considerably in the period 2011 to 2016, increasing by 847 percent (figure 1). Until 2016, growth was stronger in rural areas, most likely because of a greater need in rural areas for easily accessible primary care and diagnostic care. In 2016, however, urban retail clinic growth outpaced that of rural growth, which could be due in part to less restrictive regulations and/or limited access (or limited hours) in more traditional primary care settings. Overall, claim lines in rural areas increased 704 percent, compared to 865 percent in urban areas.

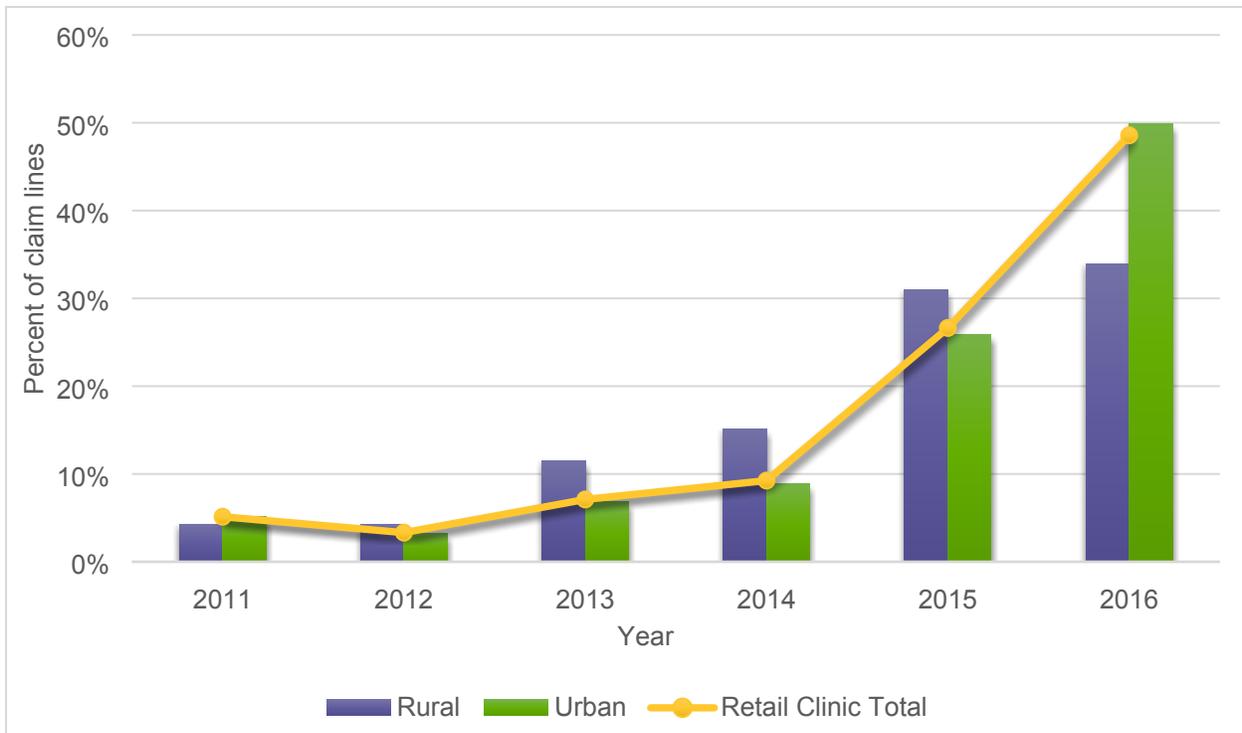


Figure 1. Claim lines with retail clinic usage by rural, urban and national settings, 2011-2016.

Figure 2 compares claim lines with retail clinic usage to all claim lines for medical procedures in a state in 2016 on a state-by-state basis. States with a greater percentage of retail clinic claim lines are on the red end of the spectrum, states with a lower percentage on the green end. The map suggests that laws and regulations regarding retail clinics can have an influence on their spread in a state. Minnesota, for example, where the first retail clinic opened,³ has been relatively receptive to the growth of retail clinics, whereas Massachusetts has strict regulations concerning the operation of such places of service.⁴

³ Christopher M. Burkle, “The Advance of the Retail Health Clinic Market: The Liability Risk Physicians May Potentially Face When Supervising or Collaborating with Other Professionals,” *Mayo Clin Proc* 86, no. 11 (2011): 1086-91; doi:10.4065/mcp.2011.0291.

⁴ National Conference of State Legislatures, “Retail Health Clinics: State Legislation and Laws,” November 2011, updated August 1, 2017, <http://www.ncsl.org/research/health/retail-health-clinics-state-legislation-and-laws.aspx#State-by-State>.

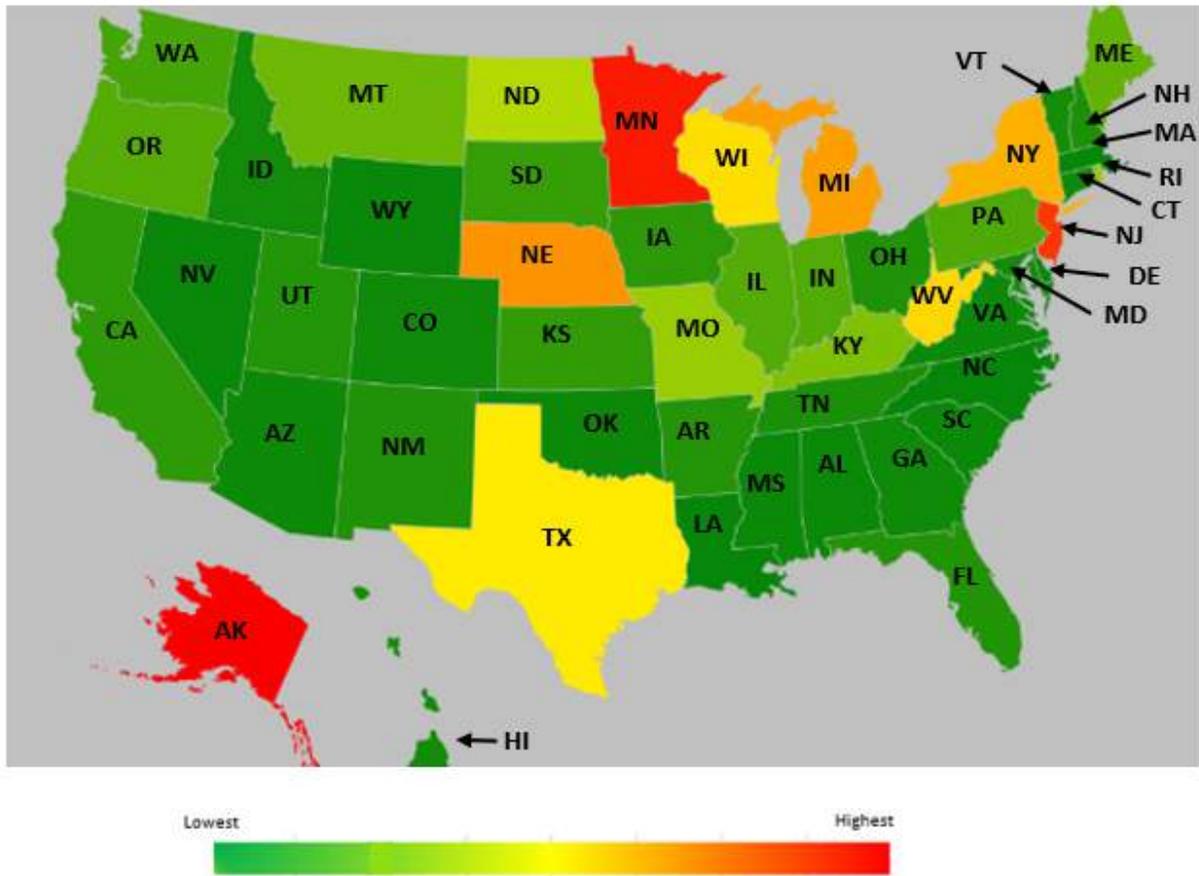


Figure 2. Percent of claim lines with retail clinic usage compared to all medical claim lines by state, 2016.

The age groups using retail clinics vary (figure 3). In 2016, the greatest number of claim lines with retail clinic usage were submitted for individuals aged 51-60 years, who accounted for 24 percent of all such claim lines. More broadly, the age span from 31 to 70 years (72 percent) was associated with retail clinic usage more than younger and older individuals combined. These figures contrast with research showing that millennials (defined in one 2015 survey as ages 21-32 years) use retail clinics and urgent care centers at much higher rates than do baby boomers (defined in the same survey as ages 50-71 years).⁵ One reason for the difference might be that this FAIR Health study includes only privately insured individuals, not the uninsured or publicly insured.

⁵ PNC Healthcare, “Five Ways Tech-Savvy Millennials Alter Health Care Landscape,” PRNewswire, March 23, 2015, <https://www.prnewswire.com/news-releases/five-ways-tech-savvy-millennials-alter-health-care-landscape-300054028.html>.

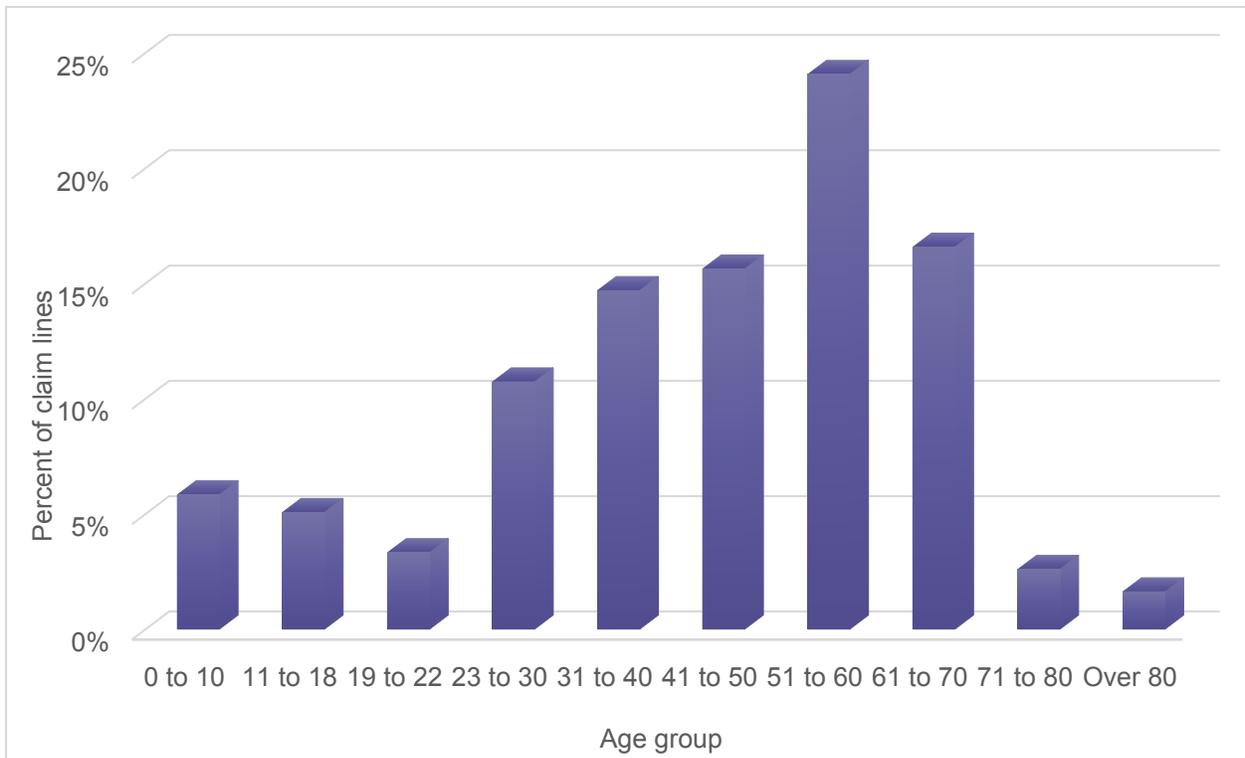


Figure 3. Claim lines with retail clinic usage by age group, 2016.

In all the places of service in this study in which FAIR Health searched for gender-related patterns—retail clinics, urgent care centers, telehealth and ERs—claims indicated that women were more likely than men to seek care. This is consistent with the findings of other researchers that women are more likely than men to visit physicians⁶ and make use of healthcare services.⁷ In the case of retail clinics, claim lines for females exceeded those for males in every age group but one: the 0-to-10-year-old age group (figure 4). Even in that age group, claim lines for boys exceeded those for girls by only 51 percent to 49 percent.

⁶ Jill J. Ashman, Esther Hing and Anjali Talwalkar, “Variation in Physician Office Visit Rates by Patient Characteristics and State, 2012,” NCHS Data Brief, no. 212; Hyattsville, MD: National Center for Health Statistics, 2015; <https://www.cdc.gov/nchs/data/databriefs/db212.pdf>.

⁷ Klea D. Bertakis et al., “Gender Differences in the Utilization of Health Care Services,” *J Fam Pract* 49, no. 2 (2000):147-52, <https://www.ncbi.nlm.nih.gov/pubmed/10718692>.

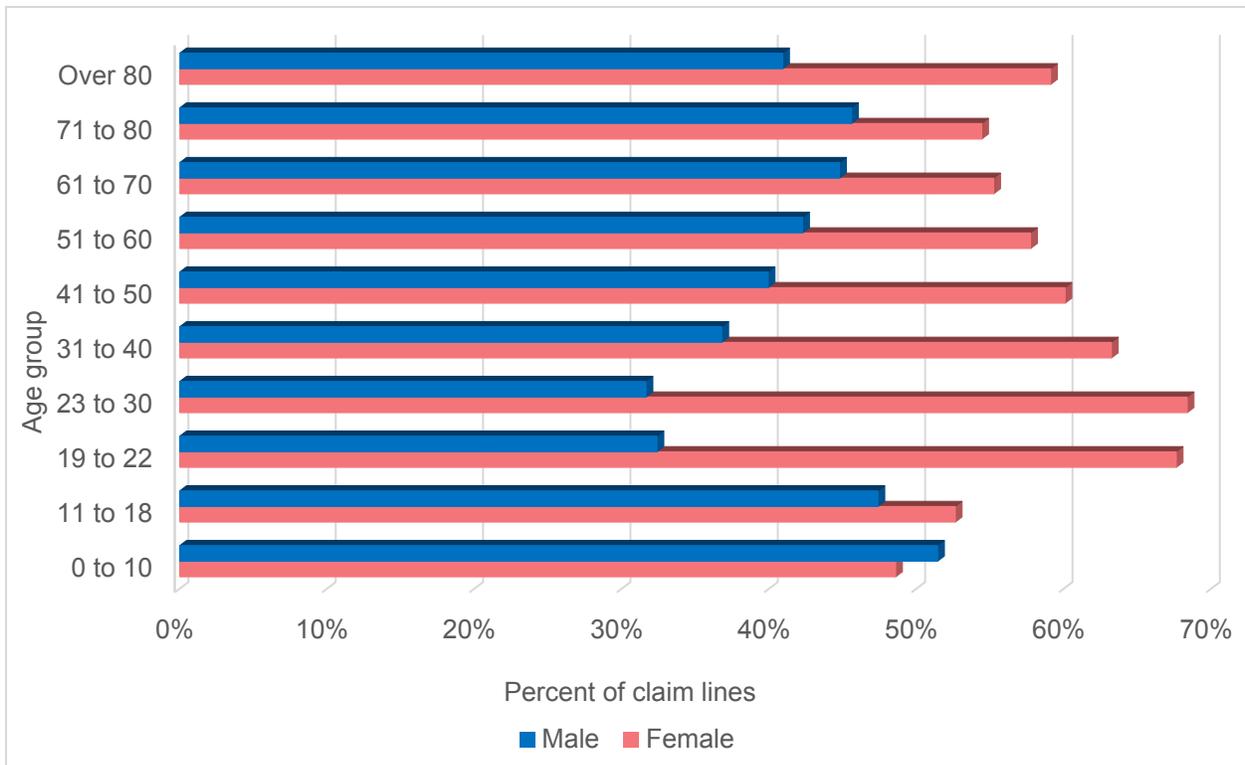


Figure 4. Claim lines with retail clinic usage by age and gender, 2016.

The most common diagnostic category in retail clinics was acute respiratory infections, which accounted for 24 percent of the distribution of claim lines with retail clinic usage in 2016 (figure 5). These infections include common colds, bronchitis and sinus infections. The second most common was general symptoms (12 percent), which include fever and malaise, and the third was communicable diseases exposure (10 percent), which includes exposure to the flu. Other top diagnostic categories were dorsopathies, which include back pain; ear infections; arthropathies, which are related to the joints; urinary tract infections; and other types of infections and mental health diagnoses.

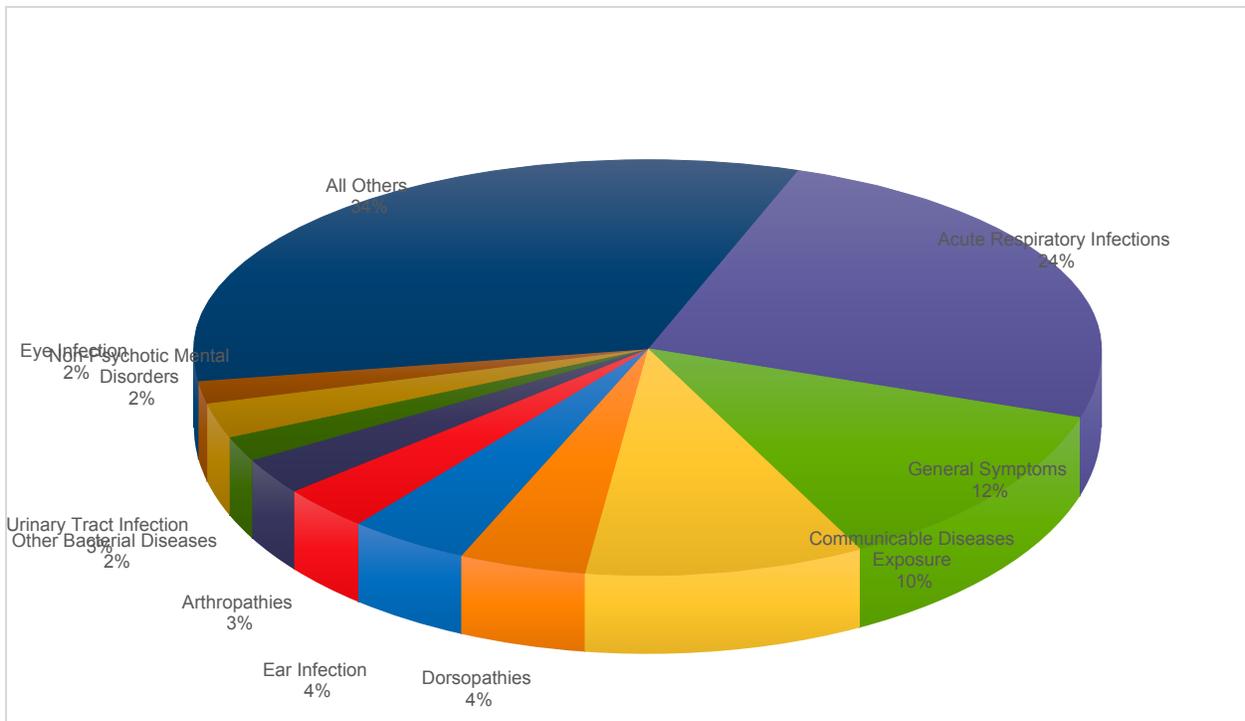


Figure 5. Distribution of claim lines with retail clinic usage by diagnostic category, 2016.

The procedures most commonly performed in retail clinics in 2016 included office or outpatient visits—both for established patients (26 percent of claim lines with retail clinic usage) and new patients (9 percent; figure 6). Another large category of claims was for other supplies (21 percent), which includes cleaning wipes and adaptive items that help with bathing, dressing and personal hygiene. Microbiology procedures was another large category (9 percent), including flu tests and bacterial cultures.

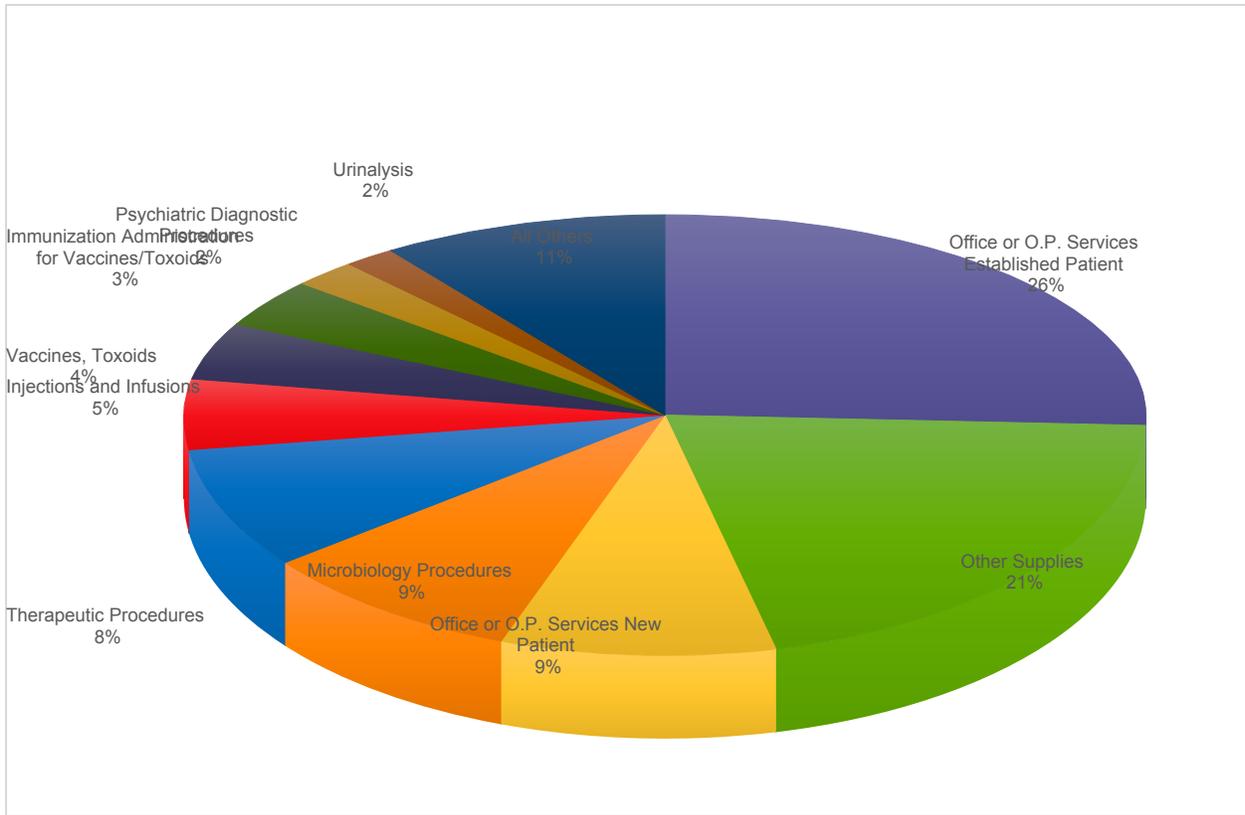
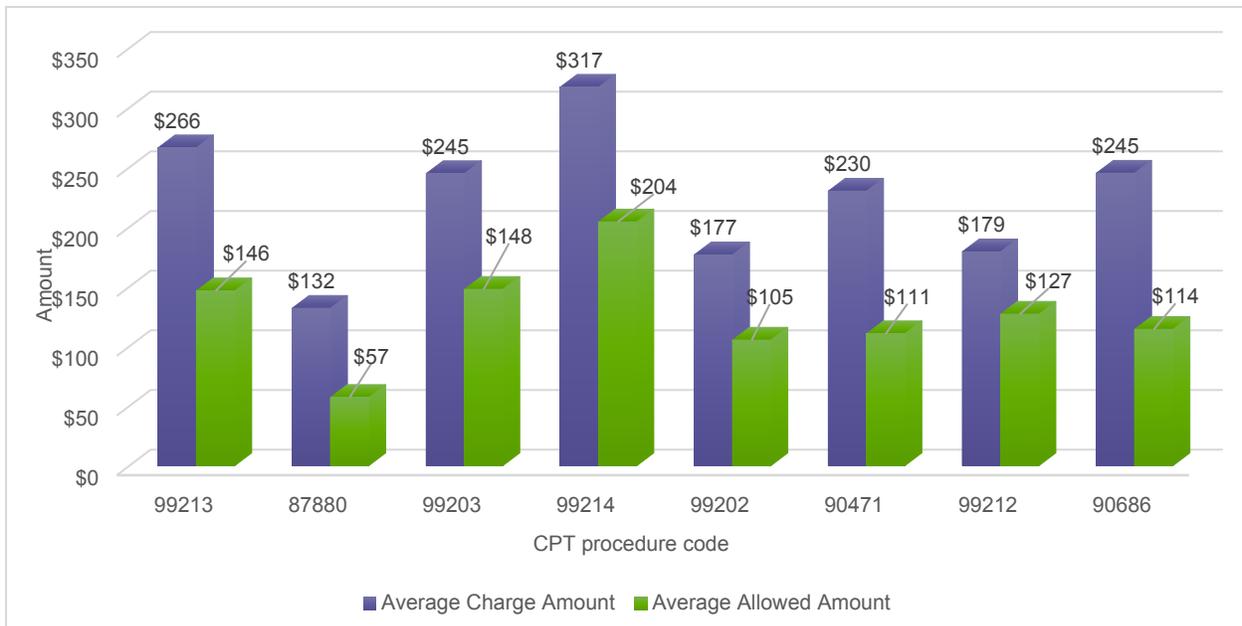


Figure 6. Distribution of claim lines with retail clinic usage by procedures, 2016. “O.P.” is “outpatient.”

The average charges and allowed amounts for the most common procedures performed in retail clinics in 2016, as identified by CPT code, are shown in figure 7. Office visits, such as CPT 99213, 99203, 99214, 99202 and 99212, which are established and new patient visits with varying times, had national average charges in a retail clinic of between \$317 (for CPT 99214, a 25-minute visit) and \$177 (for CPT 99202, a 20-minute new patient visit). The average allowed amounts were between \$204 and \$105, respectively, for those same procedures. Streptococcus tests (CPT 87880) were associated with an average charge of \$132 and an average allowed amount of \$57. Vaccinations were billed, on average, between \$245 (CPT 90686, flu vaccine) and \$230 (CPT 90471, immunization administration), with corresponding allowed amounts of \$114 and \$111.



CPT Code	Description	CPT Code	Description
99213	Office outpatient visit - 15 minutes	99202	Office outpatient - new - 20 minutes
87880	Streptococcus test	90471	Immunization administration
99203	Office outpatient - new - 30 minutes	99212	Office outpatient visit - 10 minutes
99214	Office outpatient visit - 25 minutes	90686	Influenza virus vaccine, quadrivalent

Figure 7. Average charges and average allowed amounts for the most common procedures performed in retail clinics, 2016.

Urgent Care

Like retail clinics, urgent care centers are an alternative place of service that has seen enormous growth in recent years (figure 8). From 2007 to 2016, there was a 1,725 percent increase in claim lines for procedures rendered in urgent care centers. Rural areas had a higher increase (2,308 percent) than urban areas (1,675 percent).

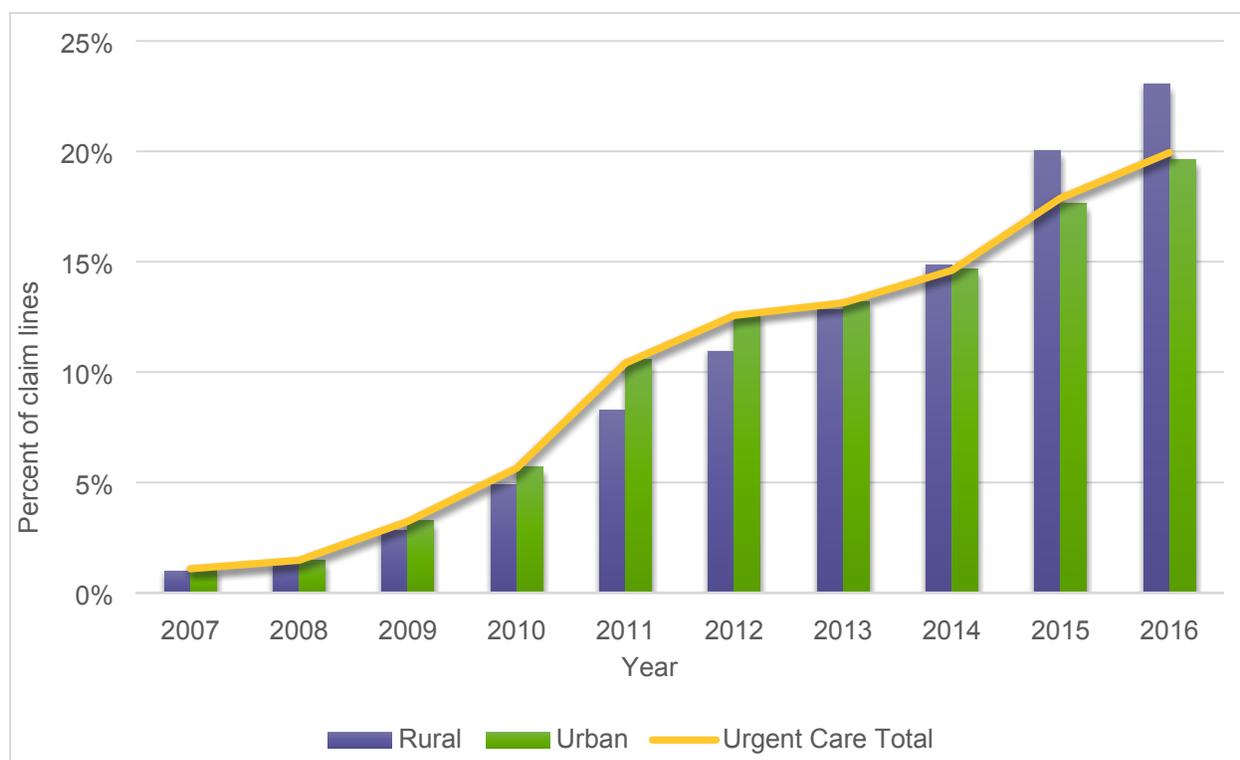


Figure 8. Claim lines with urgent care center usage by rural, urban and national settings, 2007-2016.

In 2016, the five states with the highest percentage of claim lines with urgent care center usage compared to all medical claim lines by state were Louisiana, Hawaii, West Virginia, New Mexico and Rhode Island (figure 9). In Louisiana, according to the Urgent Care Association of America (UCAOA), there are currently 137 urgent care centers.⁸ Considering that Louisiana has an estimated population (as of July 1, 2017) of 4,684,333,⁹ that is approximately one urgent care center per 34,000 people. The distribution is relatively similar for the other four states.

The states with the lowest percentage of claim lines with urgent care center usage compared to all medical claim lines were North Dakota; Washington, DC; Alaska; Iowa; and South Dakota. North Dakota, according to the UCAOA, only has 15 urgent care centers,¹⁰ and its estimated population as of July 1, 2017 is 755,393.¹¹ That is approximately one urgent care center per 50,000 individuals—not that smaller a ratio than Louisiana. Washington, DC, however, has five urgent care centers¹² with a population of 693,972 as of July 1, 2017¹³—approximately one center per 139,000 people.

⁸ Urgent Care Association of America (UCAOA), “Center Search,” accessed January 18, 2018, <http://www.ucaoa.org/search/custom.asp?id=942>.

⁹ United States Census Bureau, “QuickFacts: Louisiana; United States,” accessed January 18, 2018, <https://www.census.gov/quickfacts/fact/table/LA,US#viewtop>.

¹⁰ UCAOA, “Center Search.”

¹¹ United States Census Bureau, “QuickFacts: North Dakota; United States,” accessed January 18, 2018, <https://www.census.gov/quickfacts/fact/table/ND,US#viewtop>.

¹² UCAOA, “Center Search.”

¹³ United States Census Bureau, “QuickFacts: District of Columbia; United States,” accessed January 18, 2018, <https://www.census.gov/quickfacts/fact/table/DC,US#viewtop>.

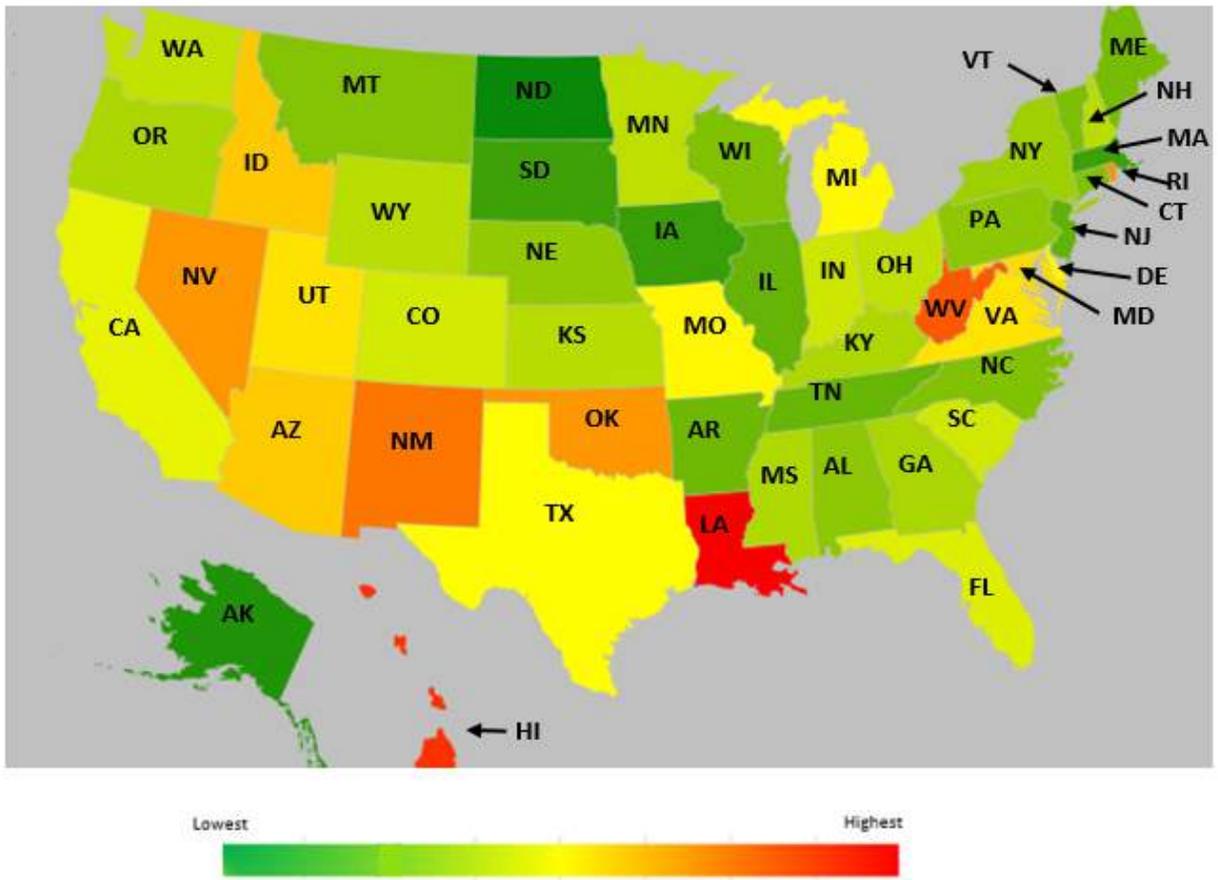


Figure 9. Percent of claim lines with urgent care center usage compared to all medical claim lines by state, 2016.

Usage by age group in 2016 was different for urgent care centers than for retail clinics. Whereas the age span 31 to 70 years accounted for 72 percent of the claim lines with retail clinic usage (figure 3), the same age span accounted for only 53 percent of the claim lines with urgent care center usage (figure 10). The peak age group for urgent care centers was 31-to-40-year-olds (18 percent), compared to a peak age group for retail clinics of individuals aged 51-60 (24 percent). Pediatric utilization was also higher in urgent care centers than in retail clinics.

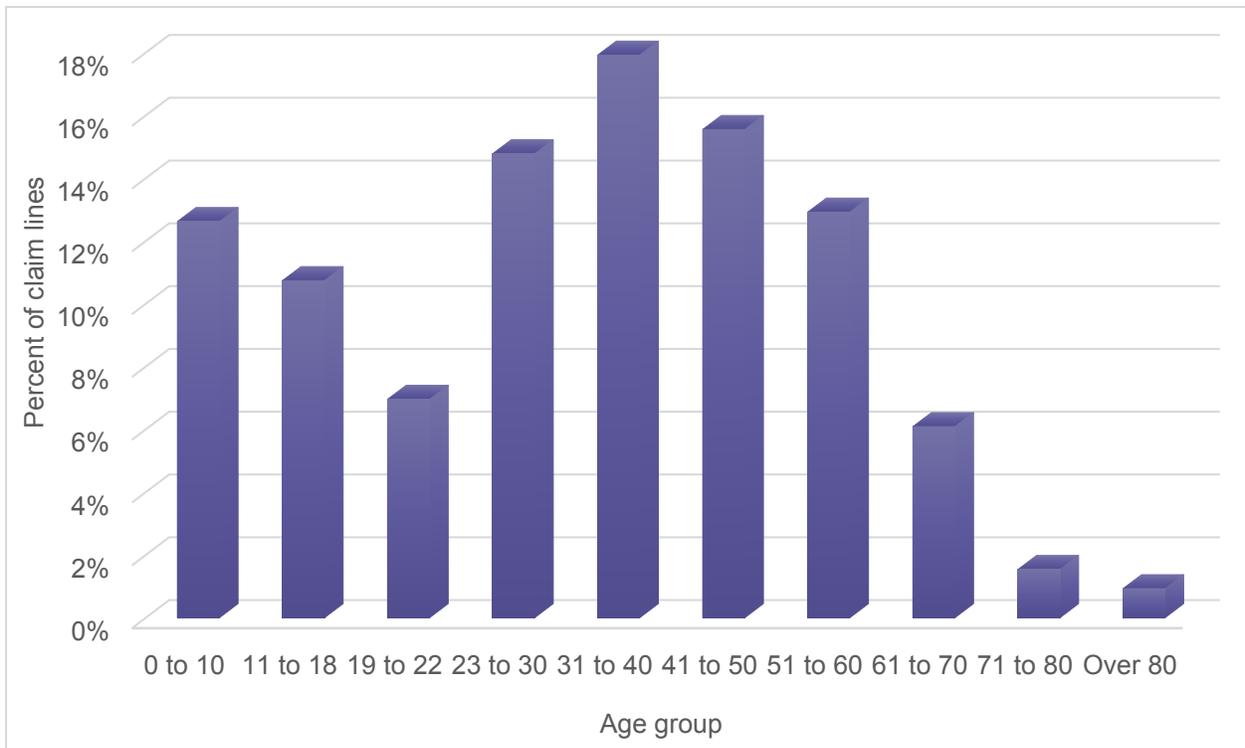


Figure 10. Claim lines with urgent care center usage by age group, 2016.

In urgent care centers, as in retail clinics (figure 4), claim lines for females exceeded those for males in every age group except the 0-to-10-year-old age group (figure 11). The disparity between females and males, however, was not quite as great as in retail clinics. In retail clinics, the greatest disparity was in the age span 19-30, in which women accounted for 68 percent of claim lines and men 32 percent. In urgent care centers, the disparity was also greatest in that age span, but women accounted for only 62 percent of claim lines and men 38 percent.

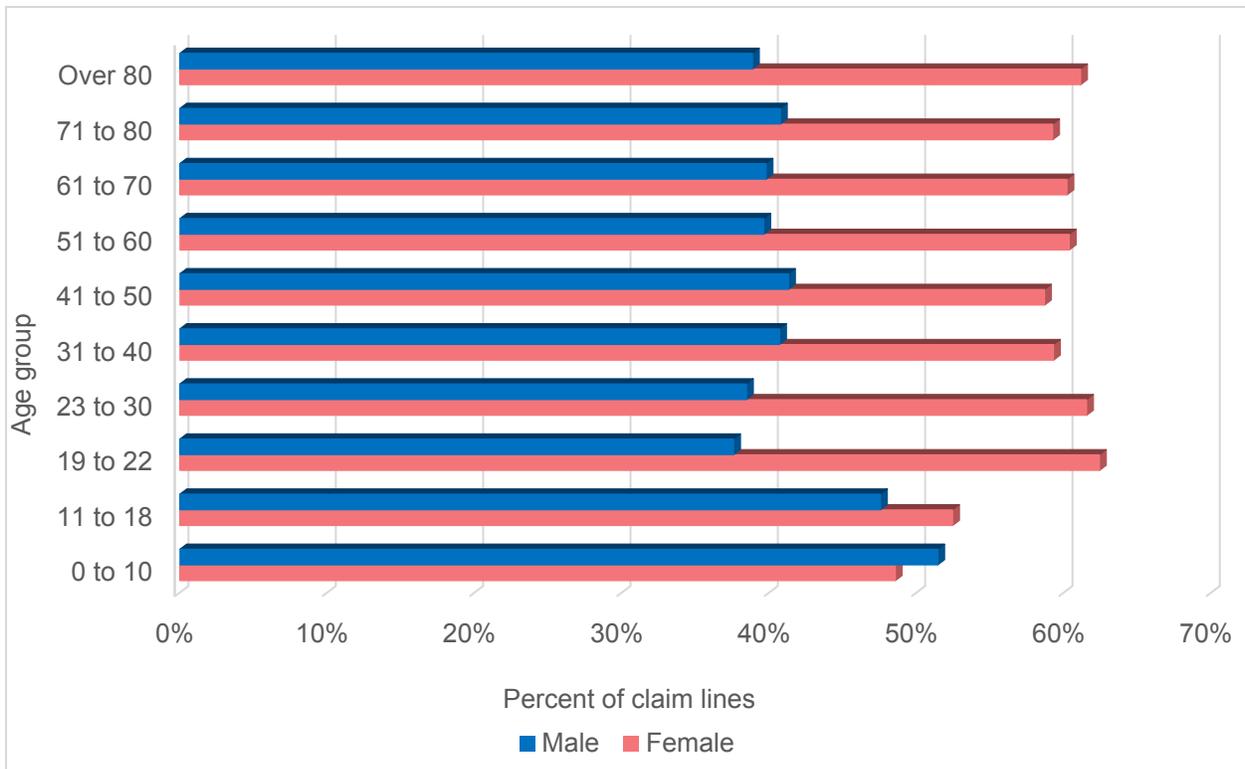


Figure 11. Claim lines with urgent care center usage by age and gender, 2016.

As in retail clinics (figure 5), acute respiratory infections were the most common diagnostic category in urgent care centers, accounting for 27 percent of the distribution of claim lines in urgent care centers in 2016 (figure 12). And, as in retail clinics, general symptoms were the second most common diagnosis (10 percent). Beyond those two categories, there were differences in the most common diagnoses in keeping with the more serious conditions urgent care centers are equipped to treat. At urgent care centers—but not at retail clinics—the most common diagnostic categories included injuries; joint and soft tissue issues; digestive system issues; skin infections; sprains, strains and fractures; influenza/pneumonia; and diseases of the respiratory tract.

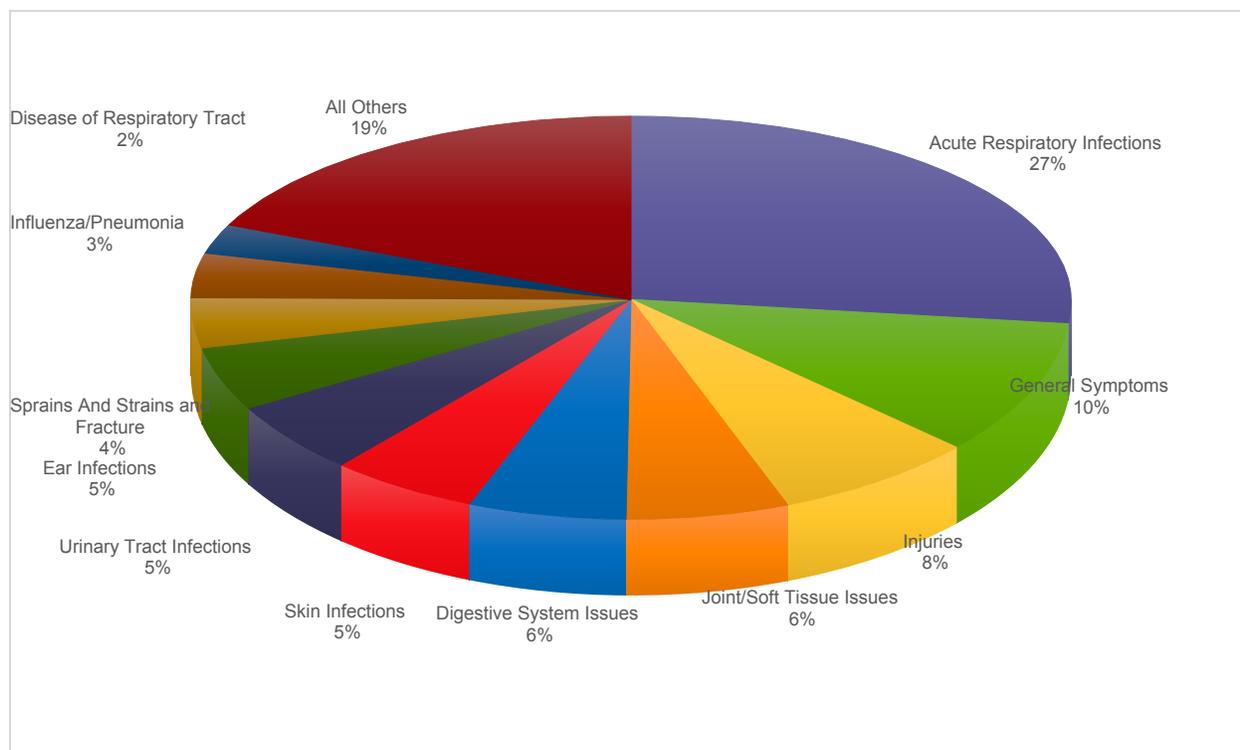


Figure 12. Distribution of claim lines with urgent care center usage by diagnostic category, 2016.

Like retail clinics (figure 6), urgent care centers included office or outpatient visits for established and new patients as among their most common procedures as determined by distribution of claim lines in 2016 (figure 13). Microbiology procedures, urinalysis, and injections and infusions also were common in both settings. Unlike retail clinics, urgent care centers included urgent care visits, diagnostic radiology, surgery of arteries and veins, inhalation solutions, and pulmonary testing and therapies among their most common procedures.

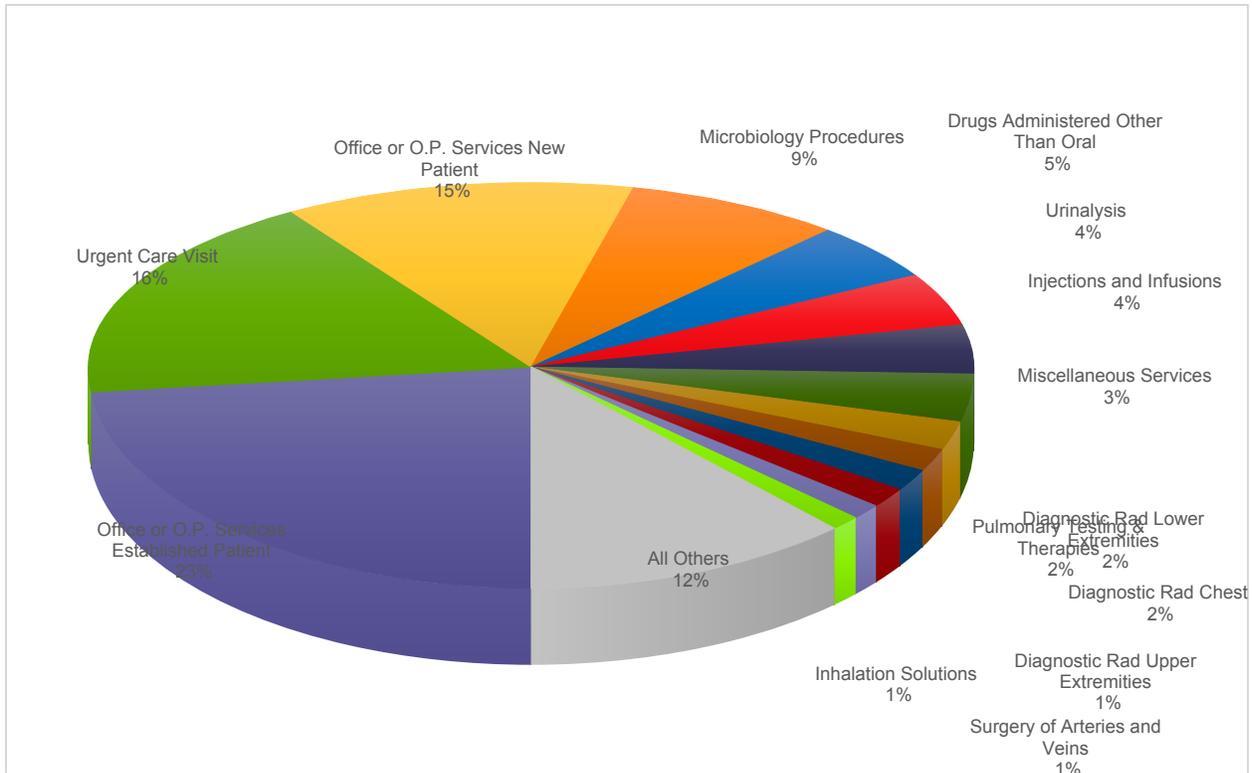
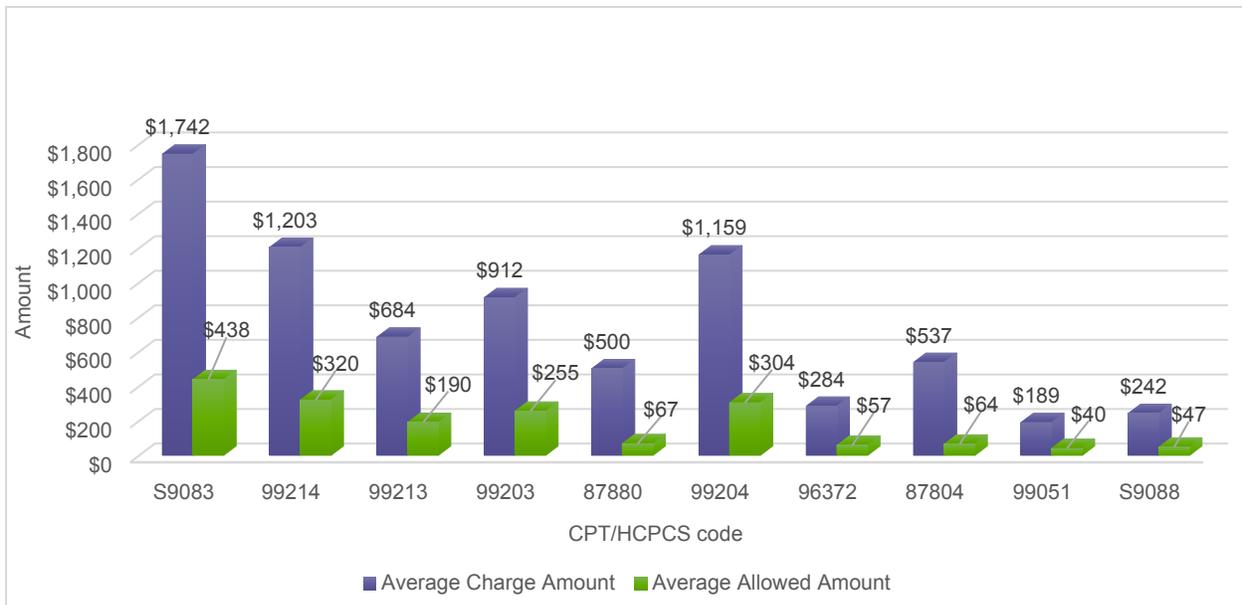


Figure 13. Distribution of claim lines with urgent care center usage by procedures, 2016. “O.P.” is “outpatient.” “Rad” is “radiology.”

The average charges and average allowed amounts for the most common procedures in urgent care centers in 2016 (figure 14) were generally higher than in retail clinics. This may be because urgent care centers need the technological capacity to treat more serious conditions than retail clinics—for example, they need radiology equipment to diagnose fractures. It also may be because an urgent care center must pay all of its own facility costs, such as rent, whereas retail clinics often share space inside a larger facility, such as a drugstore or supermarket. In urgent care centers, for example, the office visits had national average charges between \$1,203 (for CPT 99214, a 25-minute visit) and \$684 (for CPT 99213, a 15-minute visit) and, respectively, average allowed amounts between \$320 and \$190 for those same visits. By comparison, the average charge for CPT 99214 was \$317 and the average allowed amount \$204 in a retail clinic (figure 7). The average charge for S9083, a global urgent care fee that covers all procedures within the urgent care setting, was \$1,742; the average allowed amount was \$438.



CPT/HCPCS Code	Description	CPT/HCPCS Code	Description
S9083	Global fee urgent care centers	99204	Office outpatient - new - 45 minutes
99214	Office outpatient visit - 25 minutes	96372	Therapeutic, prophylactic, or diagnostic injection
99213	Office outpatient visit - 15 minutes	87804	Flu test
99203	Office outpatient - new - 30 minutes	99051	Regularly scheduled evening, weekend or holiday office hours
87880	Streptococcus test	S9088	Services provided in an urgent care center

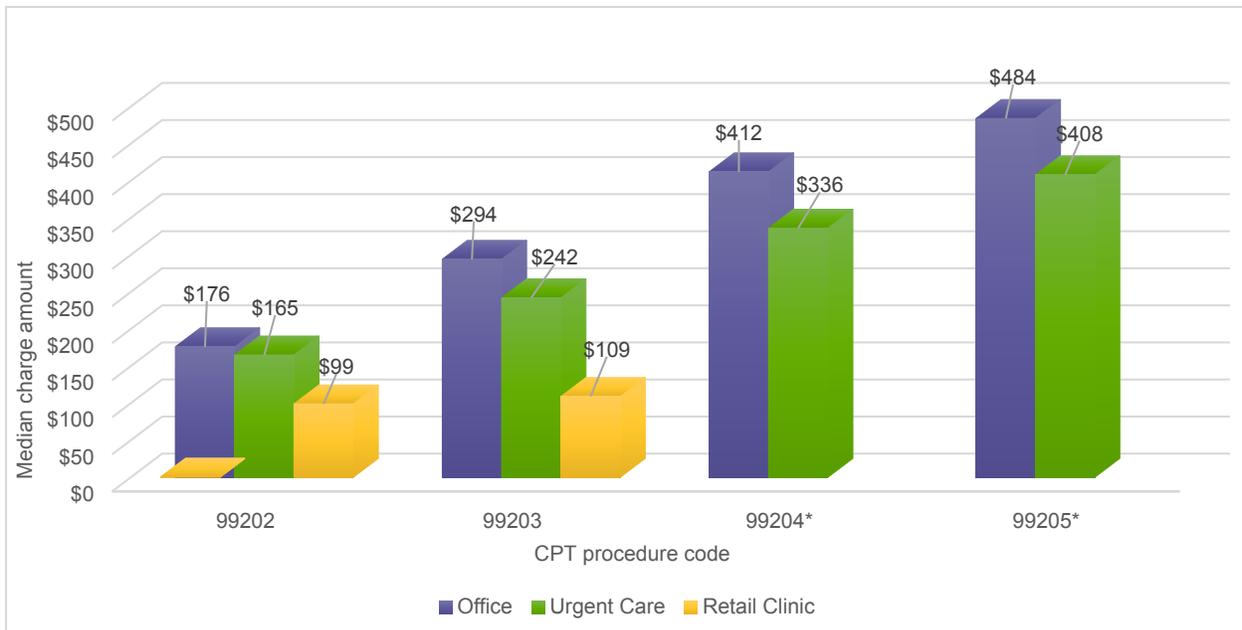
Figure 14. Average charges and average allowed amounts for the most common procedures performed in urgent care centers, 2016.

Retail Clinic, Urgent Care Center and Office: A Price Comparison

For a comparison of prices at retail clinics, urgent care centers and traditional offices, FAIR Health analyzed claims data for new patient E&M codes. A new patient E&M visit includes a detailed history for the patient, a detailed examination and medical decision making. Counseling and coordination of care with other providers also may occur. The visits are coded by length of time: CPT 99202 is 20 minutes, CPT 99203 is 30, CPT 99204 is 45 and CPT 99205 is 60.

Figure 15 shows how the median charge amounts varied by place of service in 2016. CPT 99202 ranged from \$176 for an office to \$99 for a retail clinic. At an urgent care center, the visit was \$165, closer to the price at an office.

CPT 99203 ranged from \$294 for an office to \$109 for a retail clinic. There was not enough volume to establish values for retail clinics for CPT 99204 and CPT 99205. CPT 99204 had a median charge of \$412 for an office and \$336 for an urgent care center. CPT 99205 had a median charge of \$484 for an office and \$408 for an urgent care center.



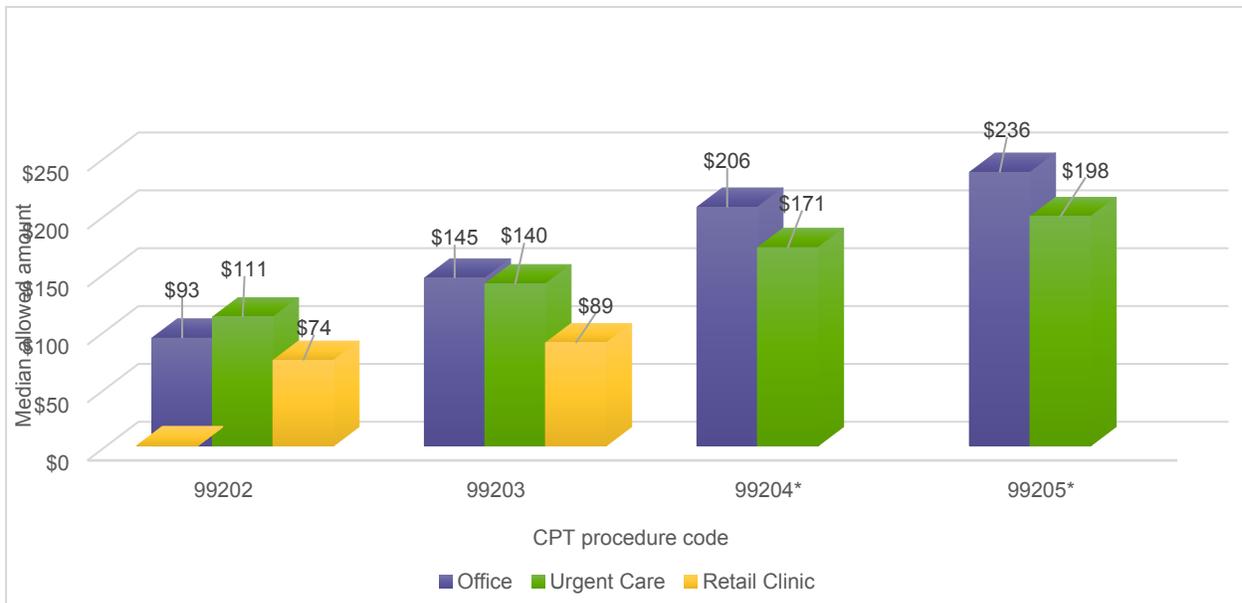
CPT Code	Description
99202	Office outpatient - new - 20 minutes
99203	Office outpatient - new - 30 minutes
99204	Office outpatient - new - 45 minutes
99205	Office outpatient - new - 60 minutes

* Retail clinics did not have enough volume to establish any values for CPT 99204 or CPT 99205.

Figure 15. Median charge amounts for offices, urgent care centers and retail clinics for new patient E&M codes, 2016.

When the same comparisons among retail clinics, urgent care centers and offices were made on the basis of median allowed amounts, the results were different (figure 16). The office, which showed higher charges for every new patient E&M code than the other places of service, had a lower allowed amount than the urgent care center for one code: CPT 99202, which was reimbursed \$93 in an office, \$111 in an urgent care center and \$74 in a retail clinic. For the other codes—CPT 99203, CPT 99204 and CPT 99205—the allowed amounts for offices and urgent care centers were similar to each other.

In a separate analysis, FAIR Health found that the distribution of median charges for established patient E&M codes was similar to the charges for new patients. As with the new patient E&Ms, median allowed amounts for the established patient codes showed less variation than the charges by place of service.



CPT Code	Description
99202	Office outpatient – new – 20 minutes
99203	Office outpatient – new – 30 minutes
99204	Office outpatient – new – 45 minutes
99205	Office outpatient – new – 60 minutes

* Retail clinics did not have enough volume to establish any values for CPT 99204 or CPT 99205.

Figure 16. Median allowed amounts for offices, urgent care centers and retail clinics for new patient codes, 2016.

Telehealth

Telehealth has grown over recent years as new state laws allow for broader use of this means of accessing healthcare. During the period 2011 to 2016, claim lines with telehealth usage increased the most in rural areas (960 percent), where it is of particular benefit to remote communities with limited access to physicians and hospitals (figure 17). By comparison, the telehealth increase was 629 percent in urban areas and 643 percent nationally. Although rural growth outpaced urban growth from 2014 to 2015, between 2015 and 2016 urban usage not only caught up but surpassed rural growth.

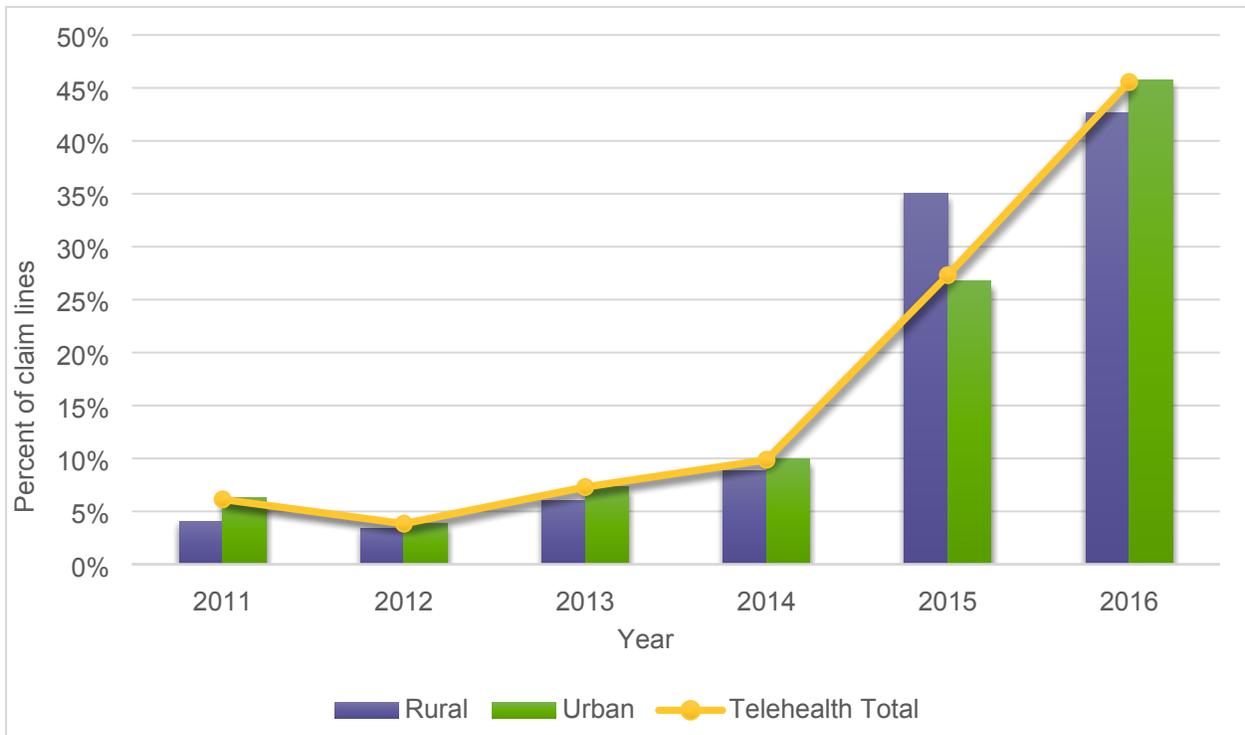


Figure 17. Claim lines with telehealth usage by rural, urban and national settings, 2011-2016.

In 2016, Massachusetts, California, Texas, South Dakota and Minnesota were the states with the greatest number of claim lines with telehealth usage as a percent of all medical claim lines (figure 18).

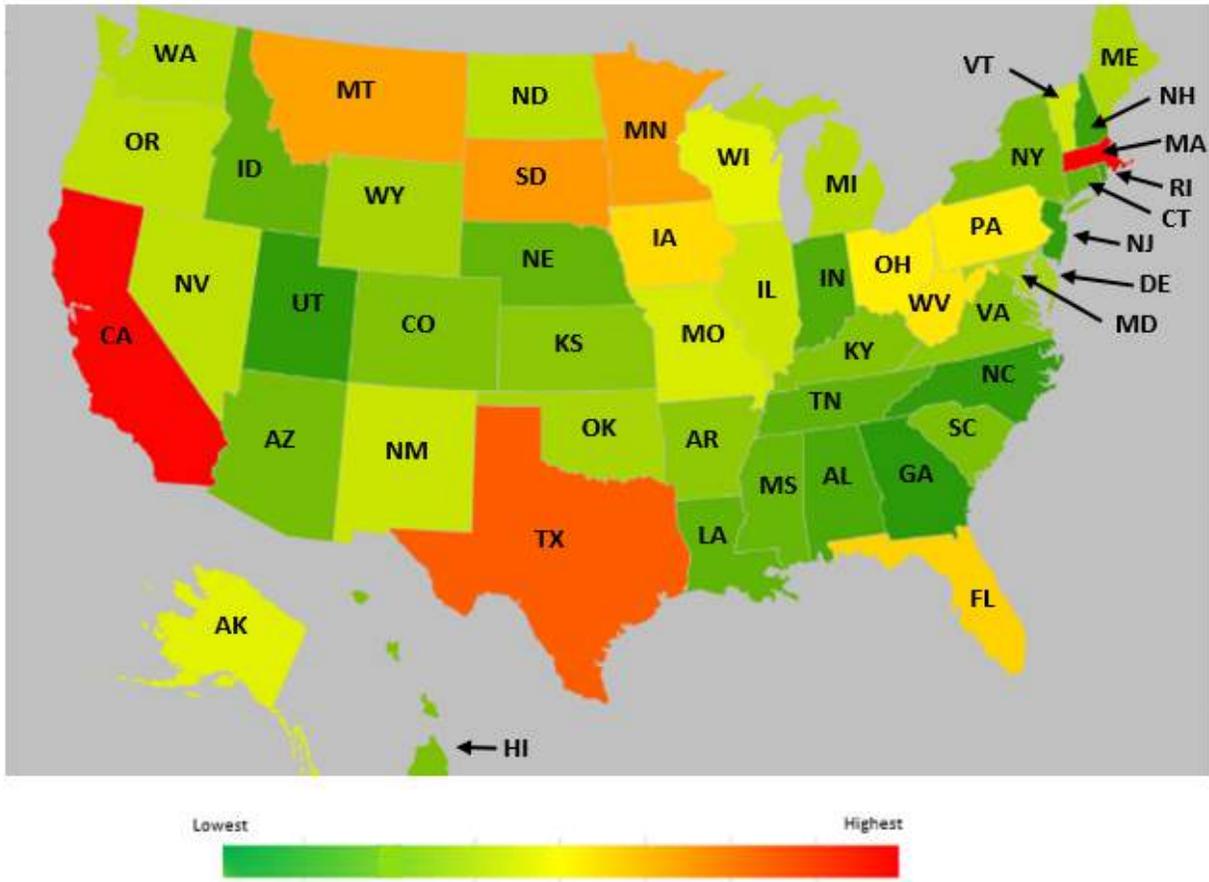


Figure 18. Percent of claim lines with telehealth usage compared to all medical claim lines by state, 2016.

Telehealth was most associated with individuals between the ages of 31 and 60 years, who accounted for 56 percent of the distribution of claim lines with telehealth usage in 2016 (figure 19). The peak age groups were 41 to 50 and 51 to 60 years, each 19 percent.

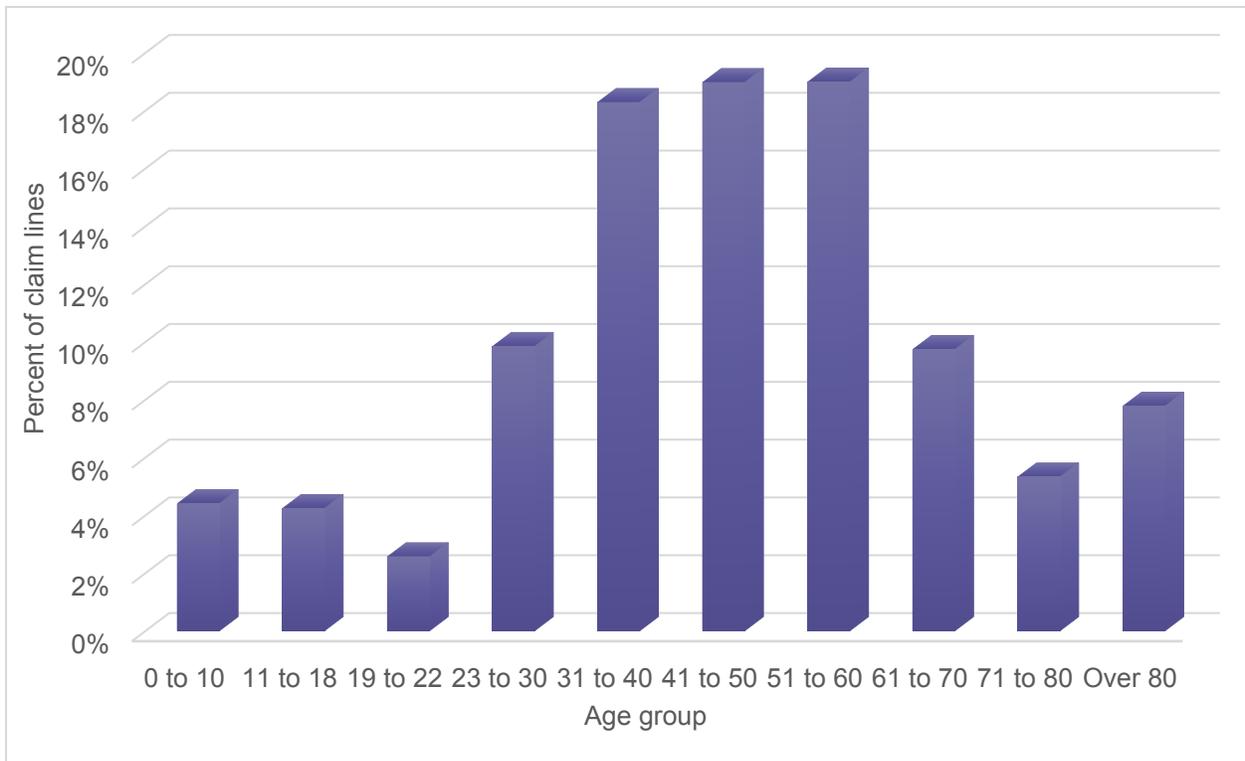


Figure 19. Claim lines with telehealth usage by age group, 2016.

In 2016, as with retail clinics and urgent care centers, claim lines with telehealth usage were submitted more for females than males in every age group except individuals aged 0 to 10 years (figure 20). In the age span 23 to 60 years, the average distribution was 67 percent female to 33 percent male.

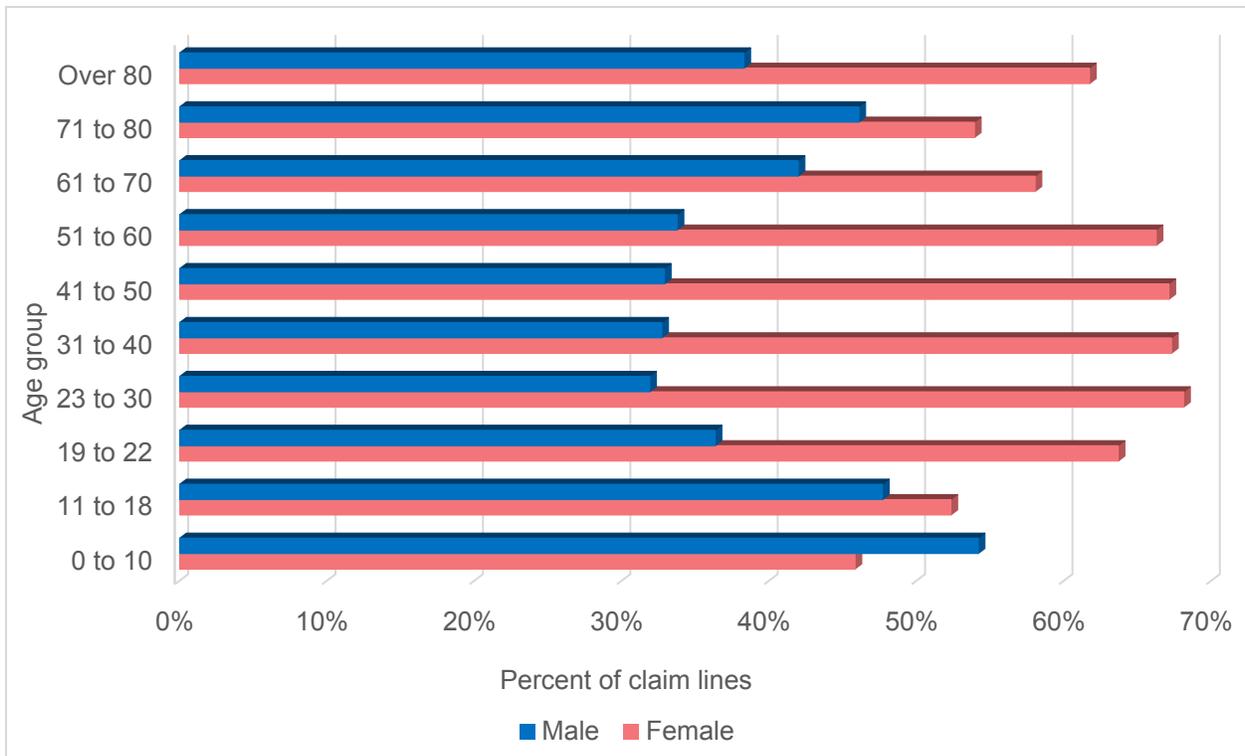


Figure 20. Claim lines with telehealth usage by age and gender, 2016.

Unlike with retail clinics and urgent care centers, the overwhelming reason individuals use telehealth is for mental health issues, which accounted for 31 percent of the telehealth claim line distribution in 2016 (figure 21). Acute respiratory infections, at 15 percent of the distribution, were the second most common reason that individuals used telehealth (whereas they were the most common reason for retail clinics and urgent care centers; figures 5 and 12). Other diagnostic categories associated with telehealth were general symptoms, urinary tract infections, arthropathies and dorsopathies, and diseases of the endocrine glands, which include diabetes, thyroid issues and other metabolic disorders.

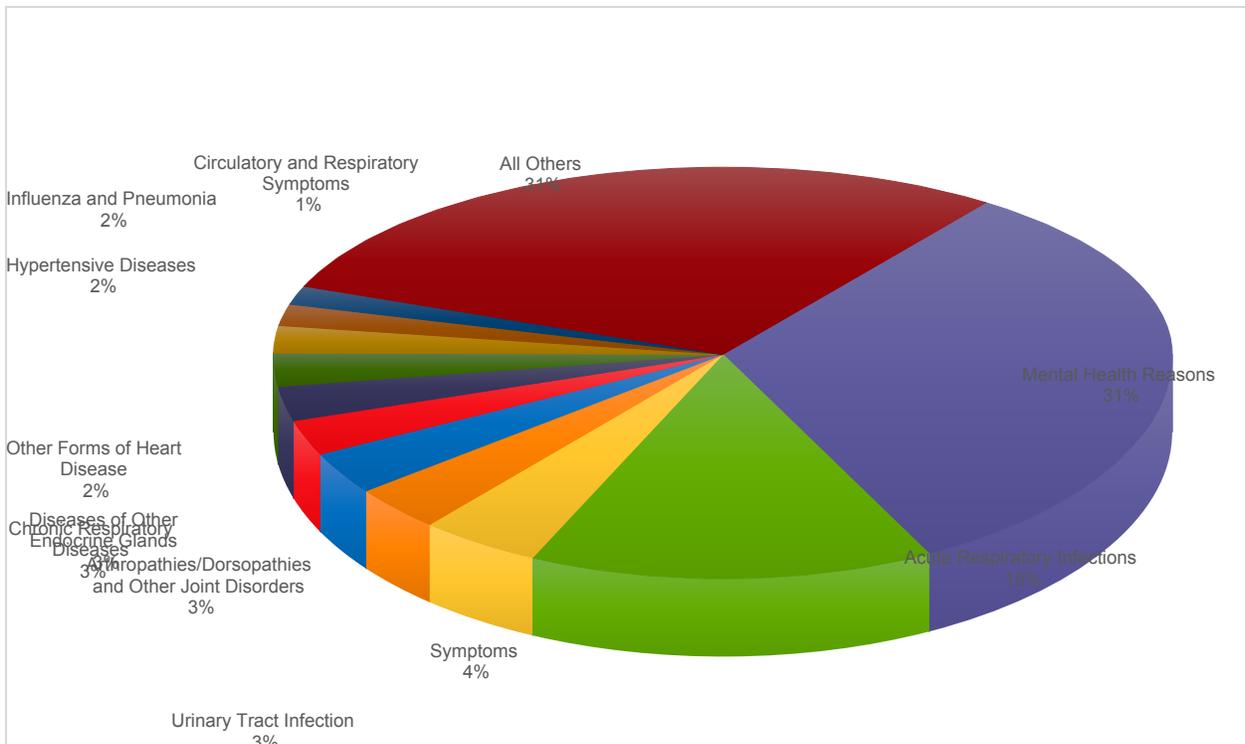


Figure 21. Distribution of claim lines with telehealth usage by diagnostic category, 2016.

Ambulatory Surgery Center

ASCs have been a venue of care for a longer period of time than some of the other alternative places of service, and their recent growth has been slower (figure 22). From 2007 to 2016, claim lines with ASC usage increased more in rural areas (127 percent) than urban areas (95 percent) or nationally (97 percent).

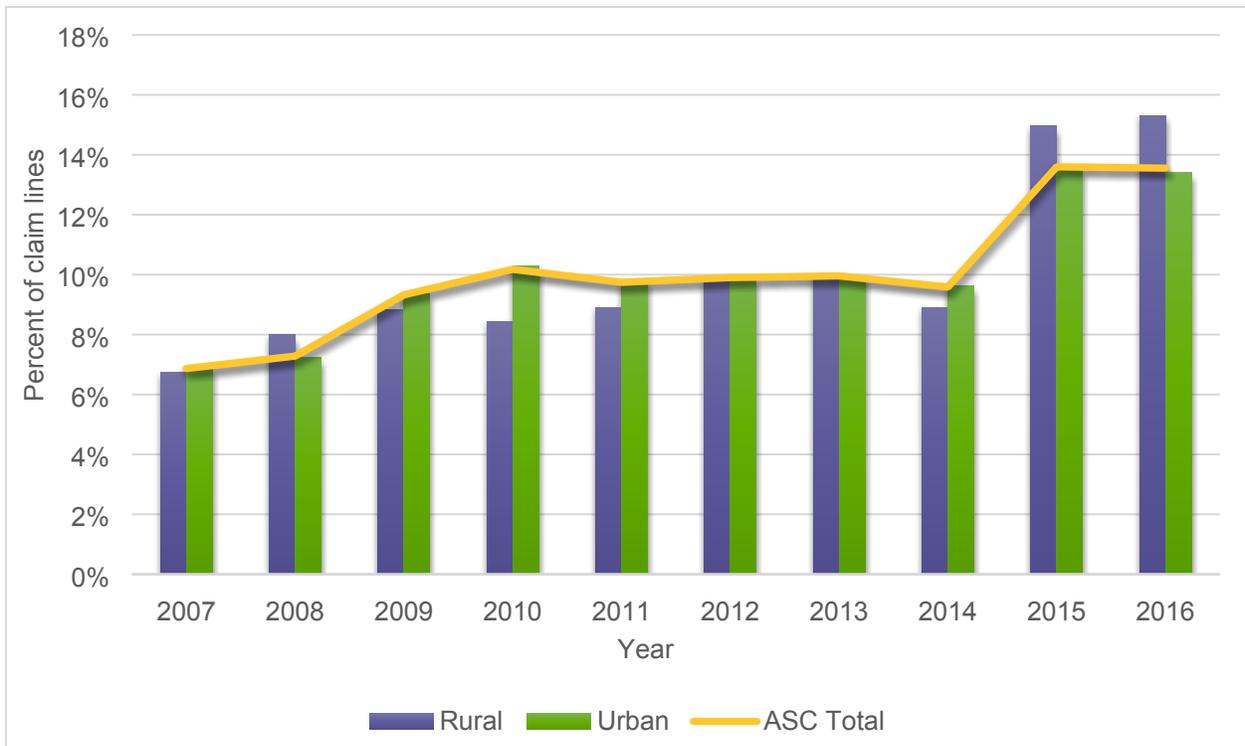


Figure 22. Claim lines with ASC usage by rural, urban and national settings, 2007-2016.

As in the other places of service reviewed above, females exceeded males in claim lines with ASC usage in almost every age group in 2016 (figure 23). But, the gender disparity was less pronounced. In the age span 0 to 18 years, males accounted for more of the claim line distribution than females.

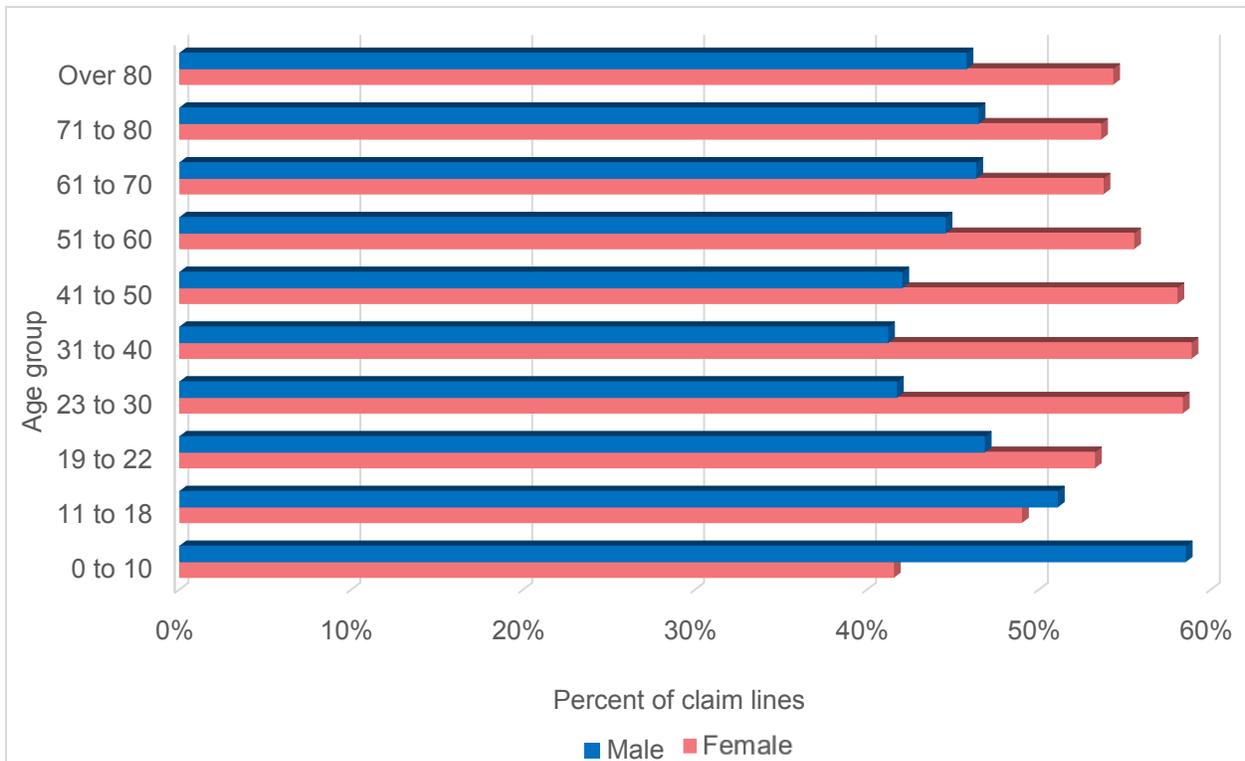


Figure 23. Claim lines with ASC usage by age and gender, 2016.

Emergency Room

Although not a new place of service, ERs have been growing in utilization. From 2007 to 2016, total claim lines with ER usage grew 229 percent nationwide (figure 24), more than double the increase for ASCs in the same period (figure 22), but only 13 percent of that for urgent care centers (figure 8). Urban growth for ERs (228 percent) was greater than rural growth (186 percent). There was an especially large increase from 2014 to 2015, which could be due to several factors, including increased health insurance coverage from the Affordable Care Act, less availability of primary care physicians in rural areas and a higher prevalence of substance abuse-related emergencies.¹⁴

¹⁴ For more information about opioid-related emergencies and other aspects of the current opioid epidemic, see *The Opioid Crisis among the Privately Insured: The Opioid Abuse Epidemic as Documented in Private Claims Data*, A FAIR Health White Paper, FAIR Health, July 2016, <http://bit.ly/2DCO4kE>; *The Impact of the Opioid Crisis on the Healthcare System: A Study of Privately Billed Services*, A FAIR Health White Paper, FAIR Health, September 2016, <http://bit.ly/2BhFpy6>; and *Peeling Back the Curtain on Regional Variation in the Opioid Crisis: Spotlight on Five Key Urban Centers and Their Respective States*, A FAIR Health White Paper, FAIR Health, June 2017, <http://bit.ly/2GdB6rd>.

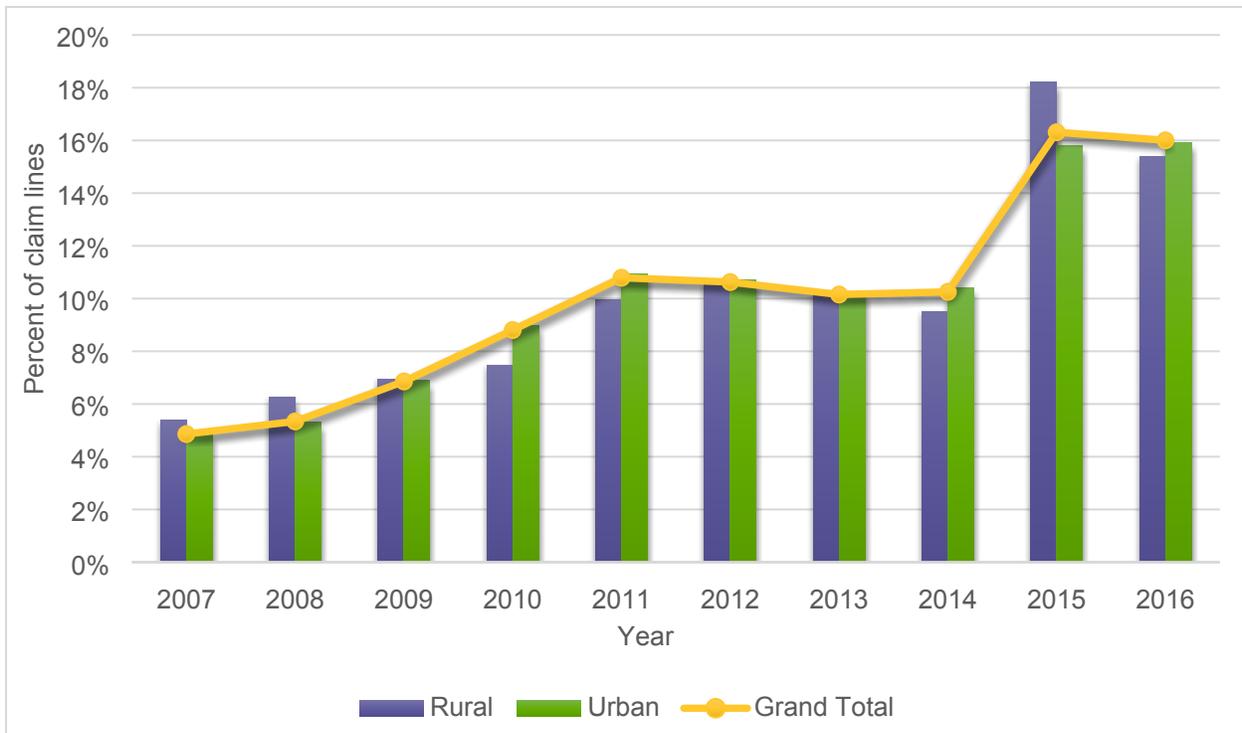


Figure 24. Claim lines with ER usage by rural, urban and national settings, 2007-2016.

Claim lines with ER usage in 2016 were concentrated in the age span from 23 to 60 years (55 percent; figure 25). Within that group, the highest percentage of claim lines were attributed to individuals from 41 to 60 years (30 percent).

Pediatric patients (aged 0-18 years) represented only 15 percent of ER claim lines, a lower percentage than that for pediatric patients in urgent care centers (24 percent; figure 10). It could be that parents have begun to internalize the message that children with urgent but non-emergency conditions are better taken to urgent care centers than ERs, both for lower cost and greater convenience. Guidelines distinguishing urgent care from emergency care have become widely available.^{15,16}

¹⁵ Mount Sinai, "What Is Urgent Care and When Should You Use It?" accessed January 19, 2018, <http://www.mountsinai.org/locations/urgent-care/what-is-urgent-care>.

¹⁶ Scripps, "Should You Go to the Emergency Room or Urgent Care?" March 7, 2016, https://www.scripps.org/news_items/4231-should-you-go-to-the-emergency-room-or-urgent-care.

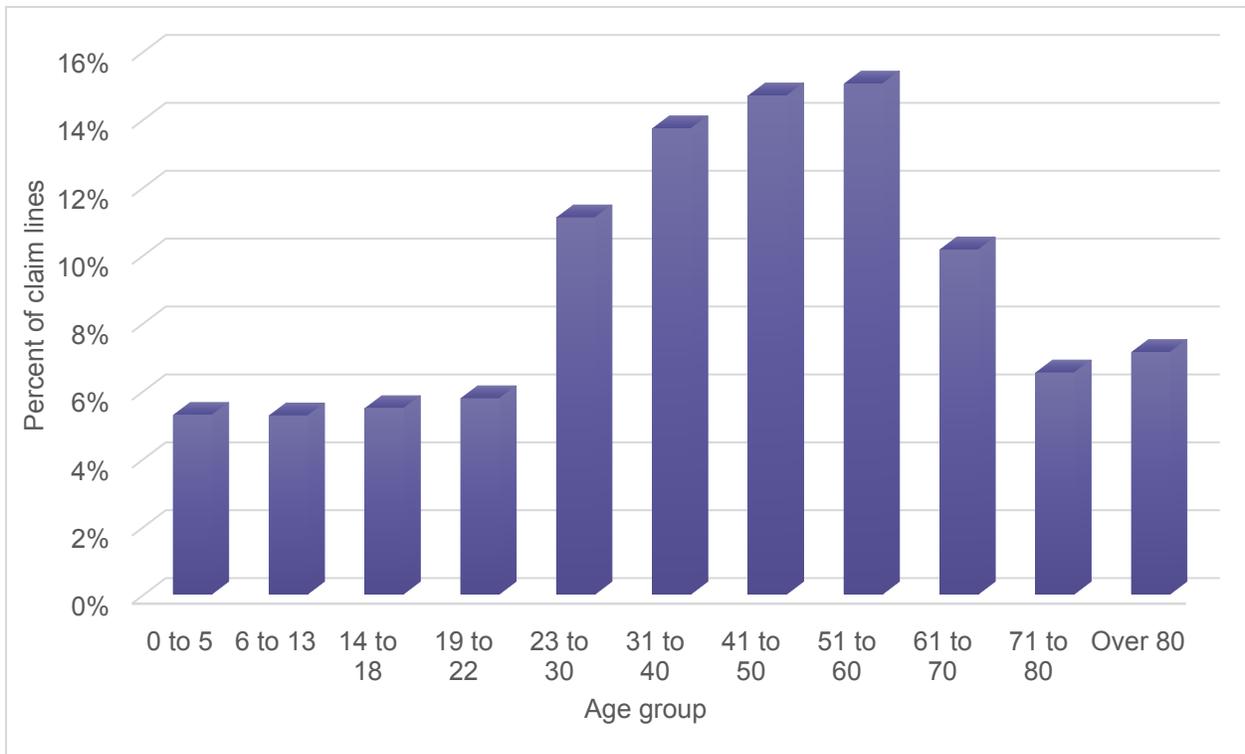


Figure 25. Claim lines with ER usage by age group, 2016.

In the age span 0 to 13 years, more claim lines with ER usage were submitted for boys than girls in 2016 (figure 26). Above that age, the familiar pattern of higher female utilization persisted. The peak disparity was in the 23-to-30-year-old range, in which women represented 62 percent of the distribution.

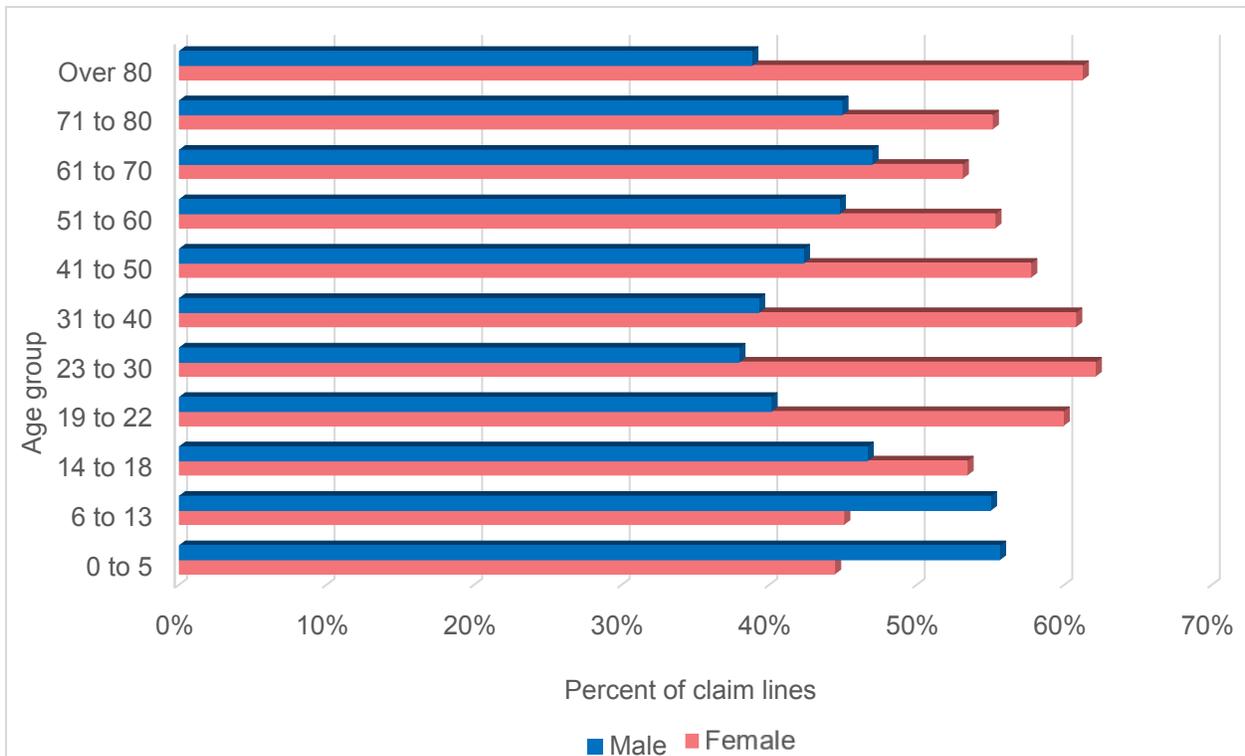


Figure 26. Claim lines with ER usage by age and gender, 2016.

Diagnoses presenting in the ER differed by age range. Figure 27 shows the 2016 distribution of claim lines with ER usage by diagnostic category for individuals over the age of 22 years, the age range that most commonly uses the ER. Circulatory and respiratory symptoms, representing 15 percent of the distribution, were the number one reason for ER visits. For this age group, this category includes chest pain, heartbeat abnormalities, abnormal blood pressure and asthma. Arthropathies and dorsopathies were also common in this age group (eight percent) as were pregnancy-related diagnoses (three percent) and urolithiasis (kidney stones; two percent).

FAIR Health has found that the ER diagnostic distribution in 2016 was different for pediatric patients (0-18 years), among whom injuries to the body were the number one reason for ER visits (23 percent, compared to 10 percent for injuries among individuals over 22). Such injuries include broken bones, lacerations, and sprains and strains. Injuries to the head (10 percent), including concussions and open wounds, and ear infections (2 percent) were also common among pediatric patients.

Among those of college age (19-22 years), the most common ER diagnoses were similar to those in the pediatric population, with injuries to the body again number one (19 percent). Injuries to the head, however, were not among the most common symptoms, and the introduction of arthropathies and dorsopathies (six percent) and pregnancy-related diagnoses (five percent) made the distribution more like that of older individuals.

All three age groups had symptoms involving the digestive system as the second most common diagnostic category in the ER.

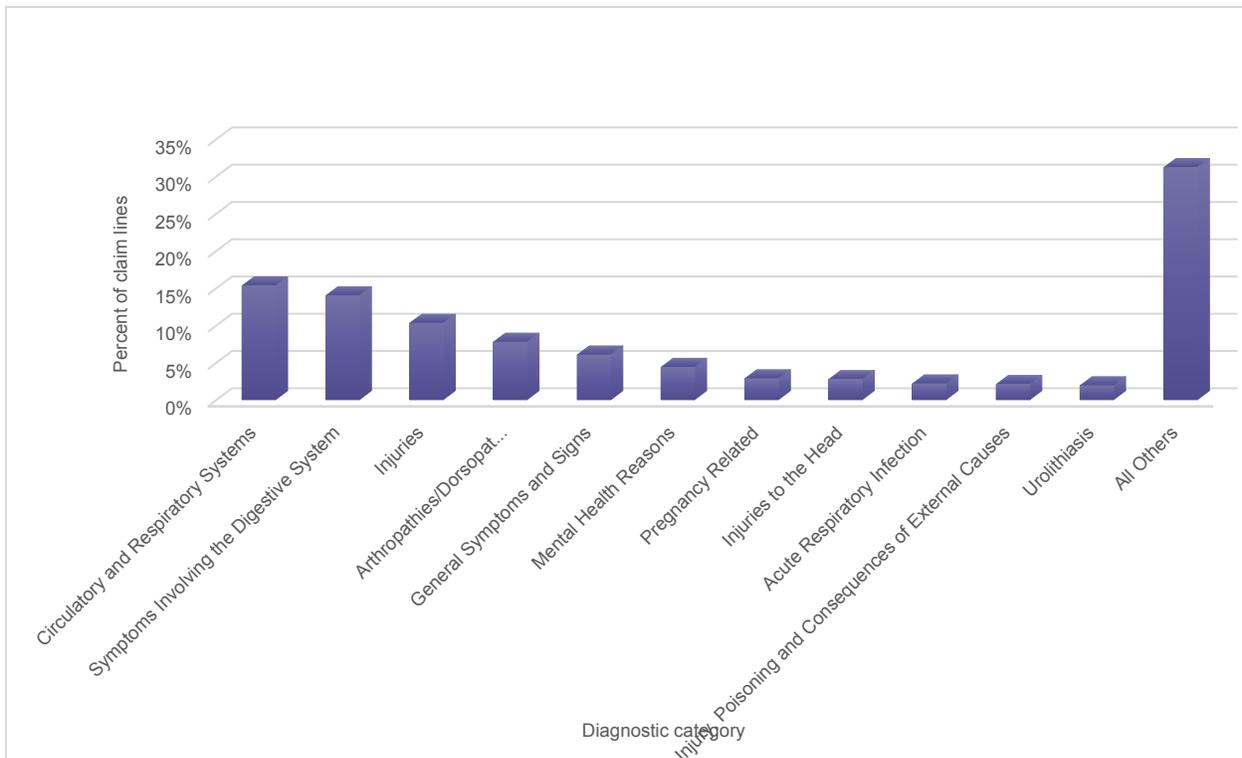


Figure 27. Distribution of claim lines with ER usage by diagnostic category for individuals over 22 years of age, 2016. Phrases with ellipses are: “Arthropathies/Dorsopathies and Other Joint Disorders” and “Injury, Poisoning and Consequences of External Causes.”

For individuals over 22 years of age, the ER procedures associated with the greatest distribution of claim lines (excluding E&Ms) in 2016 were chest X-rays (11 percent) and cardiography (11 percent; figure 28). Laboratory and pathology procedures also accounted for much of the distribution. Unlike in younger age groups, “Drugs Administered Other Than Oral” was one of the most common procedures (three percent).

FAIR Health found that chest X-rays and cardiography were common procedures for younger patients as well, but other procedures differed. For example, among pediatric patients (ages 0-18 years), diagnostic radiology of the upper extremities was a common procedure (six percent), and it was also common among college-age patients (ages 19-22 years; five percent). But, it was not among the common procedures of those over 22 years—suggesting that children and young adults break their arms more often than older adults do, or at least that other conditions more frequently bring older adults to the ER.

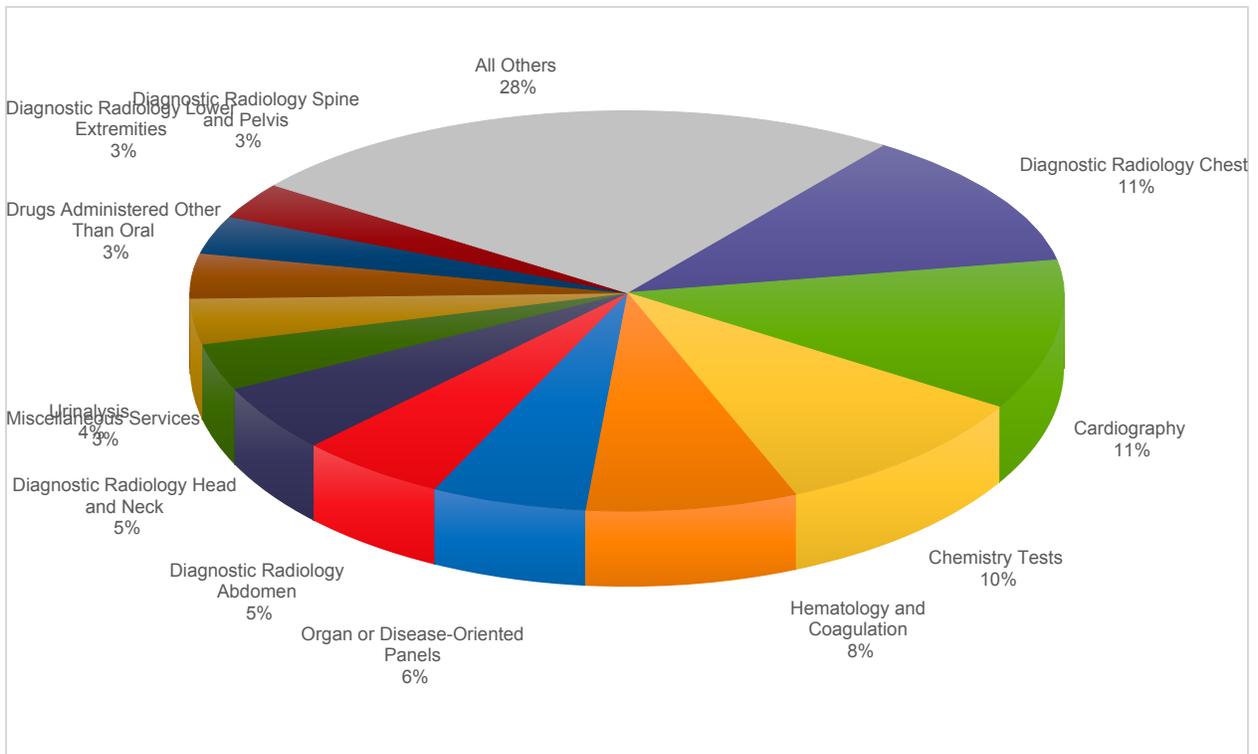
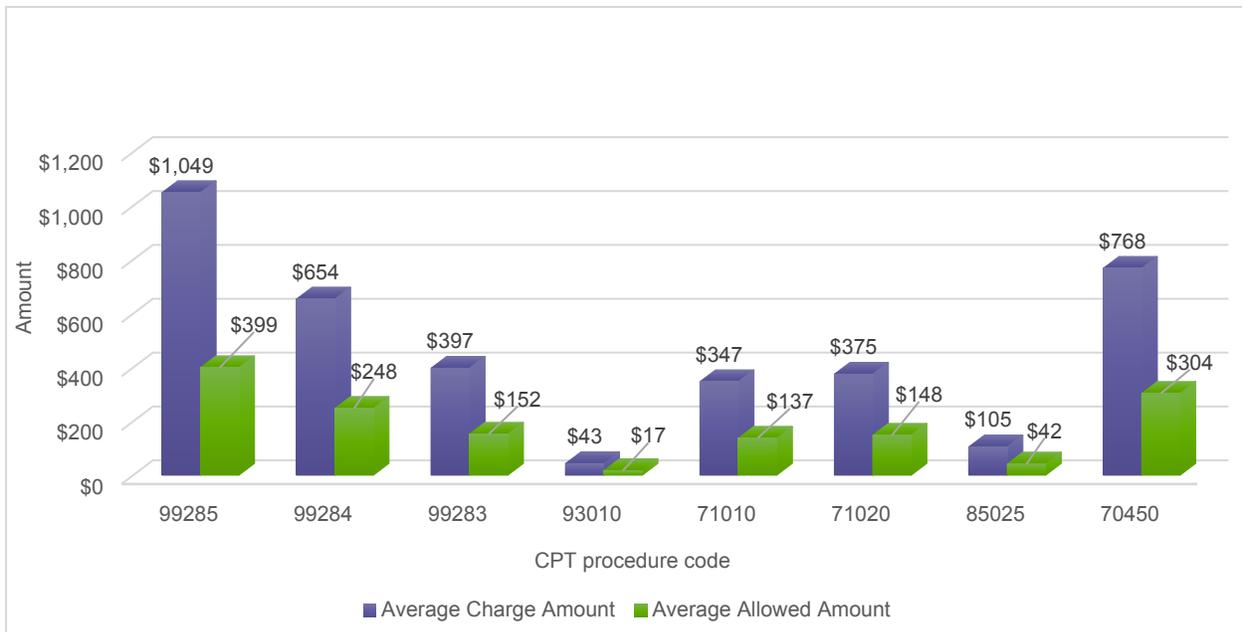


Figure 28. Distribution of claim lines with ER usage by procedures for individuals over 22 years of age, not including E&Ms, 2016.

Although the ER is generally considered the most expensive place of service, the charges and allowed amounts for some of its most common procedure codes are not necessarily higher than those for the most common procedure codes in an urgent care center. For example, the average charge for CPT 99285, a high-severity ER visit, in 2016 was \$1,049 (figure 29), whereas the average charge for S9083, a global fee for urgent care centers, was \$1,742 (figure 14); the corresponding allowed amounts were, respectively, \$399 and \$438. There also is a large disparity between the average amounts for different ER procedures. Average charges for the most common procedure codes ranged from \$1,049 for CPT 99285 to \$43 for CPT 93010, an electrocardiogram. (Electrocardiograms tend to have a low cost because the technology has become easy to acquire at a low price.) Note, however, that codes for visits (CPT 99283, CPT 99284, CPT 99285) do not include other procedures, such as laboratory tests or radiological examinations, that may need to be performed while the patient is in the ER; for example, an individual may need a head/brain CT scan (CPT 70450), that, on average, is billed at \$768 with an allowed amount of \$304, which is an additional cost along with the visit fee.



CPT Code	Description	CPT Code	Description
99285	Emergency department visit - high severity - life threatening	71010	Single view chest X-ray
99284	Emergency department visit - high/urgent severity	71020	Two view chest X-ray
99283	Emergency department visit - moderate severity	85025	Complete blood count
93010	Electrocardiogram	70450	CT head/brain w/o contrast material

Figure 29. Average charges and allowed amounts for the most common procedures performed in ERs, 2016.

FH Medical Price Index

Professional E&M

The professional E&M indices include CPT codes that are in the AMA CPT code category Evaluation and Management Services for procedures typically performed in a professional setting as opposed to a hospital setting. This includes office visits such as CPT 99213 and consultations such as CPT 99241. The upward trajectory over the five-year span from May 2012 to May 2017 was similar for the charge amount (figure 30) and allowed amount (figure 31) indices, with the former reaching 1.22 and the latter reaching 1.21 in May 2017.

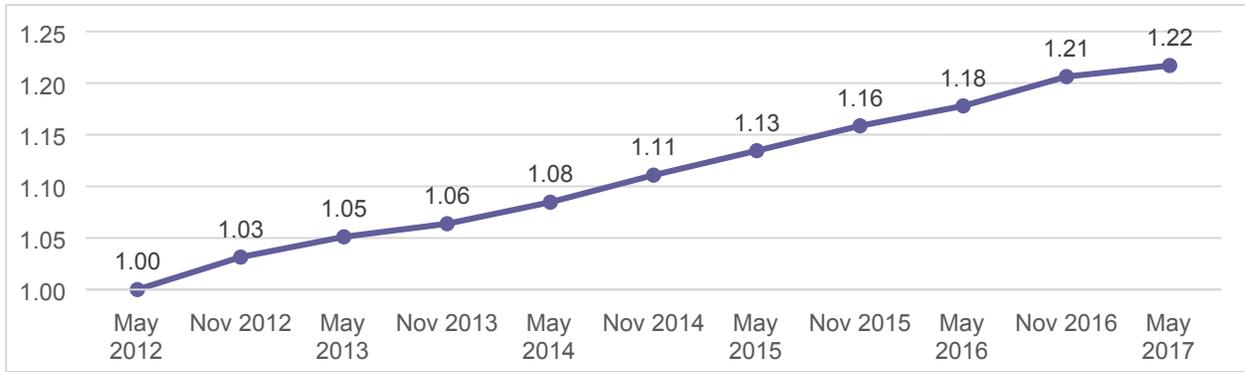


Figure 30. Professional E&M charge amount index.

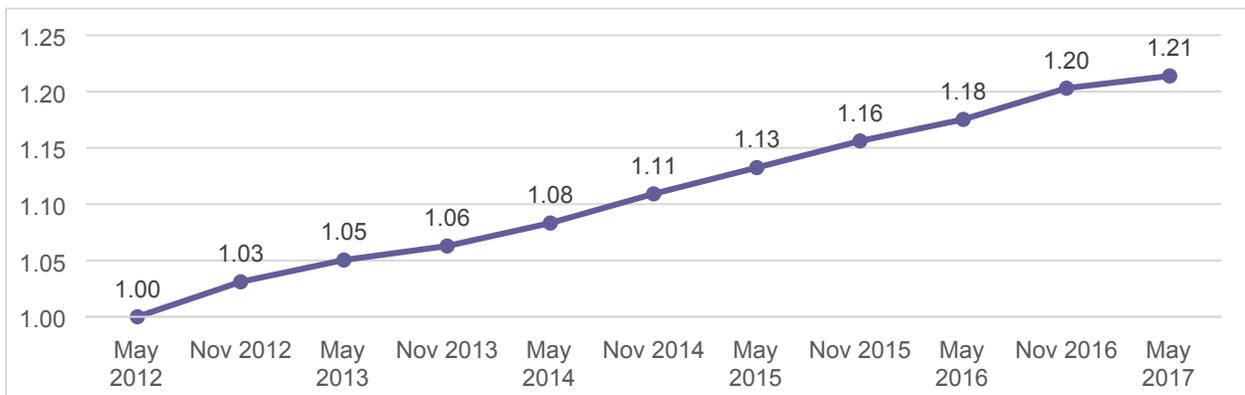


Figure 31. Professional E&M allowed amount index.

Hospital E&M

The hospital E&M indices, which correspond to professional charges and allowed amounts, include CPT codes in the AMA CPT code category Evaluation and Management Services for procedures typically performed in a hospital setting, such as CPT 99223, initial hospital care per day, 70 minutes, or CPT 99283, emergency department visit of moderate severity. They exclude E&Ms typically performed in a professional setting, such as common office visits. The charge amount index (figure 32) reached 1.28 in May 2017, the highest value reached by any of the indices in this five-year period, while the allowed amount index (figure 33) reached 1.26 that month.

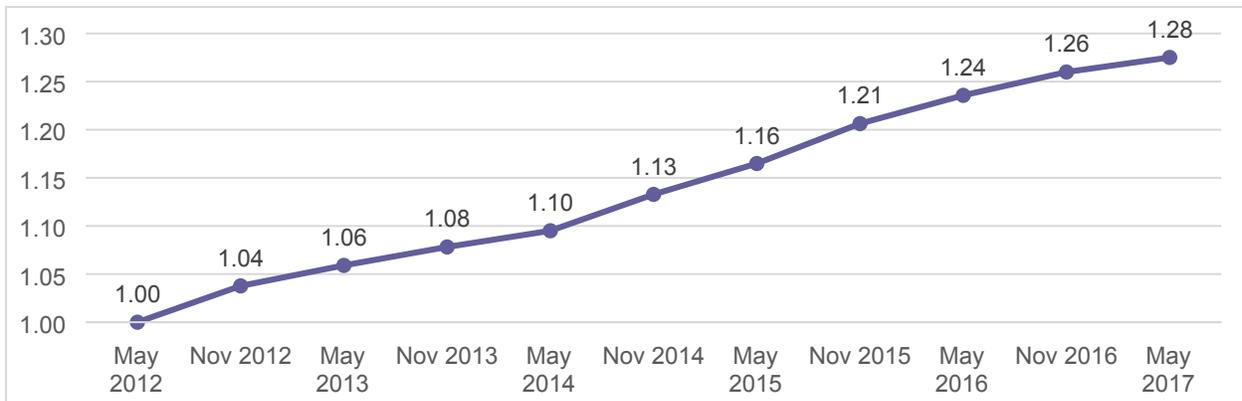


Figure 32. Hospital E&M charge amount index.

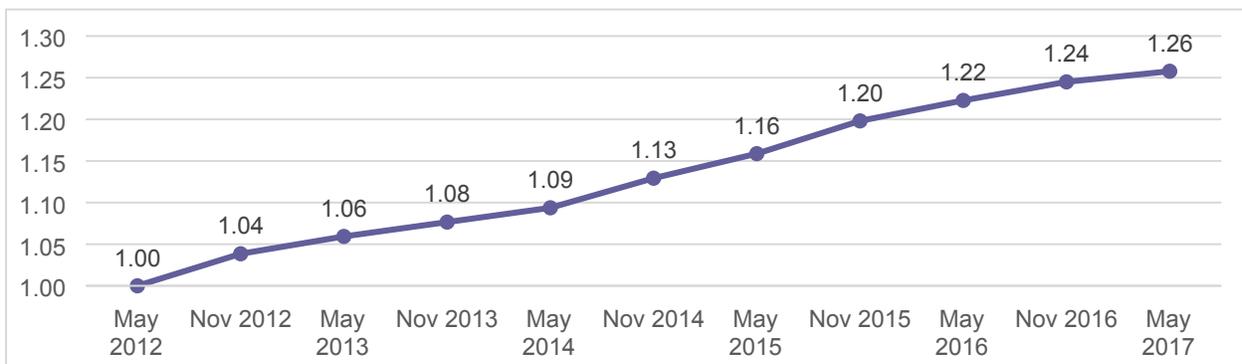


Figure 33. Hospital E&M allowed amount index.

Medicine

The medicine indices include all procedures that are not E&Ms, meet the frequency criterion of 1 million or more and are found in the CPT code ranges from CPT 90281 to CPT 99199 and CPT 99500 to CPT 99607. They include services such as immunizations, psychiatry services, dialysis procedures and allergy and immunology procedures. In contrast to the fairly steady trajectory of the E&M indices, the medicine indices for professional charges and allowed amounts show a sharp rise from November 2012 to May 2013, with the charge amount index (figure 34) increasing from 1.02 to 1.08 and the allowed amount index (figure 35) increasing from 1.02 to 1.10. This was followed by slower, but steady, growth thereafter, with the charge amount index reaching 1.14 and the allowed amount index reaching 1.17 in May 2017.

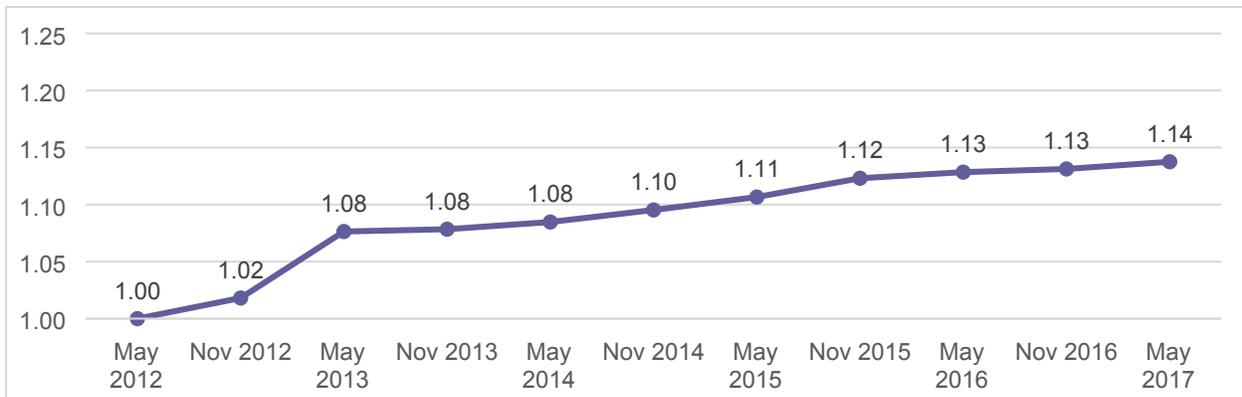


Figure 34. Medicine charge amount index.

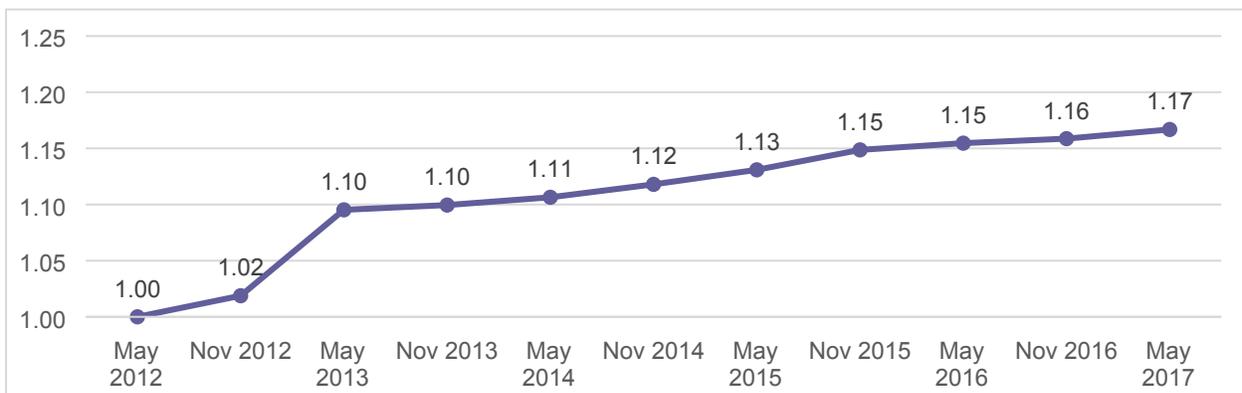


Figure 35. Medicine allowed amount index.

Surgery

The surgery indices include codes typically found in the surgical portion of the CPT code book, such as CPT 17003, which is a destruction of a premalignant lesion, and 43239, which is a biopsy during an endoscopy. These are procedures for which the physician would bill; facility fees, if any, are not reflected in the surgery indices. Growth in these indices has not been as consistent as in the E&M indices, with a decline in the surgery indices between May 2013 and November 2015. During that interval, the charge amount index (figure 36) fell from 1.01 to 0.97, and the allowed amount index (figure 37) fell from 1.01 to 0.96. Since then, both indices showed growth, with the charge amount index reaching 1.03 and the allowed amount index 1.02 in May 2017. Overall, however, the surgery indices were distinctively flatter than the other indices. This may be due to a number of factors, including hospitals buying physician practices, new technologies that can lower prices and hospital surgeons needing to keep their prices competitive with ASCs.

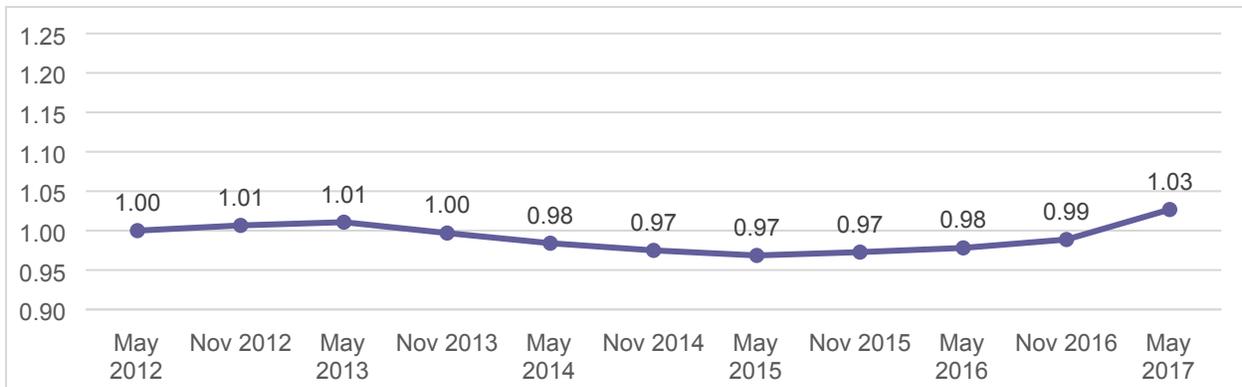


Figure 36. Surgery charge amount index.

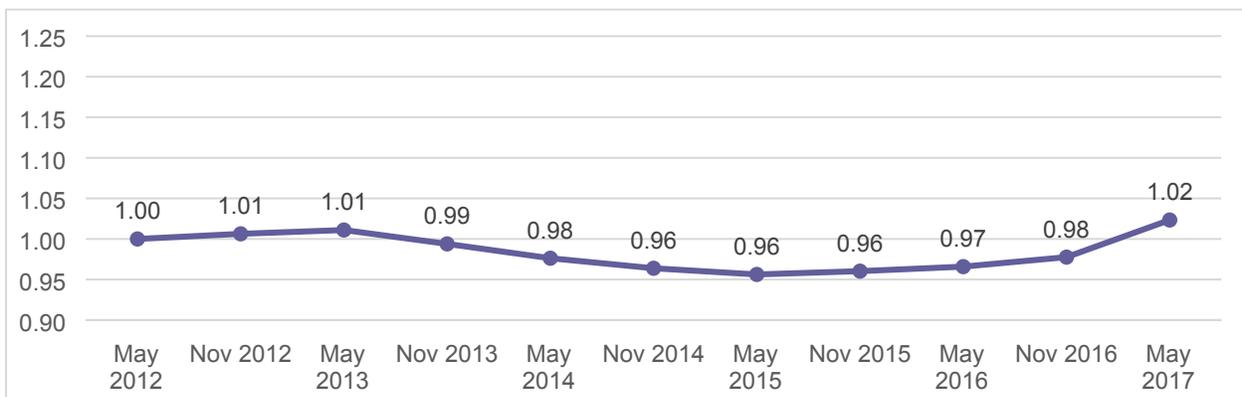


Figure 37. Surgery allowed amount index.

Pathology and Laboratory

The pathology and laboratory indices include the CPT code range 80047 through 89398, which identifies such procedures as organ- or disease-oriented panels, drug testing, therapeutic transfusion medicine, microbiology, anatomic pathology (postmortem), cytopathology and in vivo laboratory procedures. Technical (e.g., equipment) and professional costs are included, but not facility fees. The charge amount index (figure 38) shows slow but steady growth from May 2013 (1.03) to May 2017 (1.07). The allowed amount index (figure 39) shows a slightly different trajectory, with a decrease from November 2012 (1.06) to May 2014 (1.03) and then a steady increase to May 2017 (1.07).

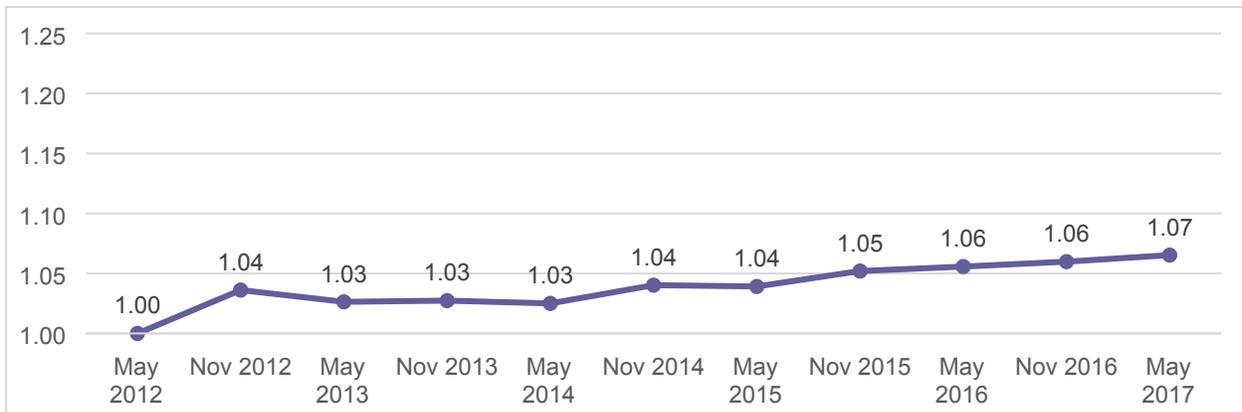


Figure 38. Pathology and laboratory charge amount index.

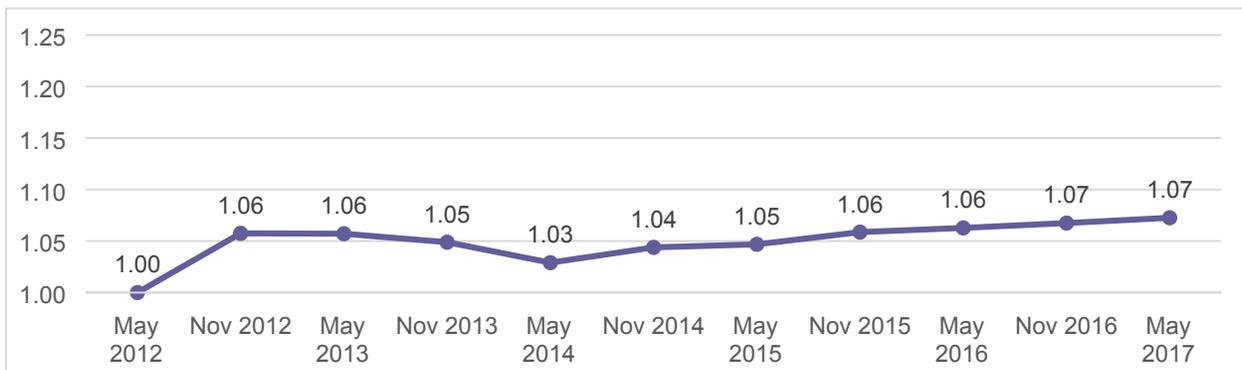


Figure 39. Pathology and laboratory allowed amount index.

Radiology

The radiology indices include CPT codes from 70010 to 79999, representing a variety of imaging techniques to diagnose or treat diseases. X-rays, radiographs, ultrasounds, positron emission tomography (PET), computed tomography (CT) and nuclear medicine are included in this category. Both technical and professional components are included, but not facility fees. The indices for radiology showed a more consistent gradual pattern of increase than the other indices. From May 2012 to November 2016, the charge amount index (figure 40) and the allowed amount index (figure 41) each increased 0.02, from 1.0 to 1.02. From November 2016 to May 2017, both indices increased from 1.02 to 1.07.

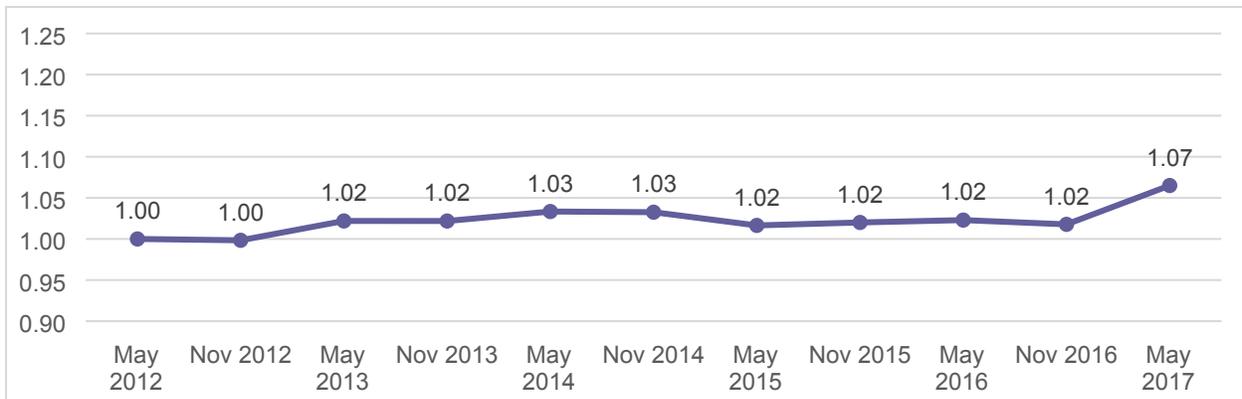


Figure 40. Radiology charge amount index.

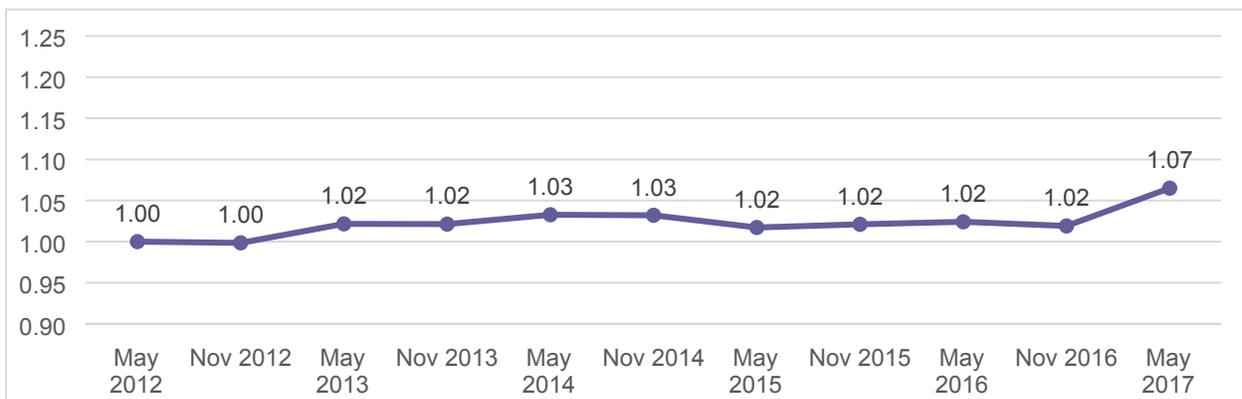


Figure 41. Radiology allowed amount index.

Conclusion

FH Healthcare Indicators demonstrated growth in the number of claim lines for every place of service (retail clinics, urgent care centers, telehealth, ASCs and ERs) but growth was particularly notable in urgent care centers, retail clinics and telehealth—indicating the spreading acceptance and/or availability of these alternative venues of care. Growth in utilization typically differed to some degree in urban and rural areas. Some age groups appeared to show a preference for one place of service over another. Consistent with long-term patterns, claim lines were more likely to be submitted for women than men in every adult age group in every place of service studied. The places of service varied in their most common diagnoses, most common procedures, and charge and allowed amounts for their most common procedure codes.

The FH Medical Price Index showed increasing costs over a five-year period in every procedure category (professional E&M, hospital E&M, medicine, surgery, pathology and laboratory, and radiology), but the growth varied from 28 percent in median procedure charges for hospital E&Ms to 3 percent for surgery. Sudden rises and dips sometimes occurred, as well as more steady increases, but for all categories, the period was marked by an overall increase. The index also showed that, although charges and allowed amounts often follow similar trends, differences sometimes occur.

In 2016, healthcare spending accounted for 17.9 percent of the nation’s gross domestic product (GDP).¹⁷ Given the extraordinary role of the healthcare sector in the US economy, it has become more important than ever to identify and understand the trends and shifts within that sector. Such knowledge can inform many decisions in this sector—for example, decisions about care management, provider networks, recruitment, expansion, affiliation agreements, investment and consumer engagement. For consumers, such knowledge can inform their individual strategies about how to seek care. FAIR Health believes that the information in FH Healthcare Indicators and the FH Medical Price Index will be useful to all healthcare stakeholders, including payors, providers, government officials, policy makers and others. As part of its mission, FAIR Health will issue these reports annually. In addition, FAIR Health makes available customized indicators and indices that offer specific data subsets (e.g., based on clinical category, geographic region, time period) of particular interest to stakeholders. Contact FAIR Health at info@fairhealth.org or 855-301-3247 to learn more about such opportunities.

¹⁷ Centers for Medicare & Medicaid Services, “National Health Expenditure Data: Historical,” last modified January 8, 2018, <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>.

About FAIR Health

FAIR Health is a national, independent, nonprofit organization dedicated to bringing transparency to healthcare costs and health insurance information through data products, consumer resources and health systems research support. FAIR Health possesses the nation's largest collection of private healthcare claims data, which includes over 25 billion claim records contributed by payors and administrators who insure or process claims for private insurance plans covering more than 150 million individuals. FAIR Health also holds separate data representing the experience of more than 55 million individuals enrolled in Medicare. Certified by the Centers for Medicare & Medicaid Services (CMS) as a Qualified Entity, FAIR Health receives all of Medicare Parts A, B and D claims data for use in nationwide transparency efforts. FAIR Health licenses its privately billed data and data products—including benchmark modules, data visualizations, custom analytics, episodes of care analytics and market indices—to commercial insurers and self-insurers, employers, hospitals and healthcare systems, government agencies, researchers and others. FAIR Health has earned HITRUST CSF and Service Organization Controls (SOC 2) certifications by meeting the rigorous data security requirements of these standards. As a testament to the reliability and objectivity of FAIR Health data, the data have been incorporated in statutes and regulations around the country and designated as the official, neutral data source for a variety of state health programs, including workers' compensation and personal injury protection (PIP) programs. FAIR Health data serve as an official reference point in support of certain state balance billing laws that protect consumers against bills for surprise out-of-network and emergency services. FAIR Health also uses its database to power a free consumer website available in English and Spanish and an English/Spanish mobile app, which enable consumers to estimate and plan their healthcare expenditures and offer a rich educational platform on health insurance. The website has been honored by the White House Summit on Smart Disclosure, the Agency for Healthcare Research and Quality (AHRQ), URAC, the eHealthcare Leadership Awards, appPicker, *Employee Benefit News* and *Kiplinger's Personal Finance*. FAIR Health also is named a top resource for patients in Elisabeth Rosenthal's book, *An American Sickness: How Healthcare Became Big Business and How You Can Take It Back*. For more information on FAIR Health, visit fairhealth.org.

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